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## (2) INFORMATION FOR SEQ ID NO:2720:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2720

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## (2) INFORMATION FOR SEQ ID NO:2721:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2721

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## (2) INFORMATION FOR SEQ ID NO:2722:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2722

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## (2) INFORMATION FOR SEQ ID NO:2723:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2723

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1261 gcctcccaaa tgacatcgga ttacaggcgt gagccactga gcctggcccc tattaatgtt
1321 tagaacacga attccaggag gcaggctaag tctattcagc ttgttcatat gcttgggcca
1381 acccaagaaa caagtgggtg acaaatggca ccttttggat agtgggtatt actttgaaag
1441 tttgggtcag gagctgggga ggaagggtgg gcaggctgtg ggcagtcctg ggcggaagac
1501 caggcagggc tatgtgctca ctgagcctcc gccctcttcc tttgaatctc tgatagactt
1561 ctgctcctca cttctcctt ctgccccttc tttgttttgg tggcttctt gtggttctc
1621 agtgggtgct gcaaccctgg ttactcttc cagggttctg ctcttccag ccatggctct
1681 cagagtcctt ctgttaacag gtgcattggg gtgggtggg ggactctggg tggggaggag
1741 ggtaactttt gggctgtgca taaatagagg gcc

```

## (2) INFORMATION FOR SEQ ID NO:2724:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2724

```

1 ctgcagctcc ggaacggggg ggggtgtctc tccaccgcc ctgtgaggcc gcccgga
61 gtgcaggcgg gccggcgcg gtggtcagc cctgtgatct cagcactttg ggaggccgag
121 gtggcgagat cacctgaggt cgggagttcg aggccagcct gcccaacatg gagaaacct
181 gtcttacta aagatacaaa attagccagg cgtgtgacg catgcctgta atcccagcta
241 ctggagtggc tgaggcagga gaatcgctg agcccgggag acagaggttg cggtagctg
301 agatcgacc attgcactcc agcctgggca acaagagcga aactcagaaa aaaaagaaa
361 gaaagtgcag gggaccgcc gtcgggggtg gggcgcgct gccagcctc tgtccactt
421 ccatgcactt gacctcgacc ctccggctc cgtctgcgat cttcccgtc ctgaatatga
481 ggcttggaa agaccagac ctctctgct gccgtctg agtggcccc ggaccgcc
541 ccatctttg ccccagccc ctgctctct gccgctcca ggttcgggg tcaggccagg
601 aaagccctt gggaagcccc cgggagcag ctggagcgg gtcgccccg ggcgggaag
661 agtggcgcc tctatttaag cggttcccc gcggcctcg gacagaggg actgagcatg

```

721 gatttcggac tggccctcct gctggcgggg cttctggggc tctcctcgg tgagaagg

(2) INFORMATION FOR SEQ ID NO:2725:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2725

1 atggatttcg gactggccct cctgctggcg gggcttctgg ggctcctcct cggccagtc  
61 ctccaggtga agccctgca ggtggagccc cggagccgg tgggtggcgt ggcttgggc  
121 gcctcgcgcc agctcacctg ccgctggcc tgcgcggacc gggggcctc ggtgcagtgg  
181 cggggccttg acaccagcct gggcgcggtg cagtcggaca cgggcccag cgtcctcacc  
241 gtgcgcaacg cctcgtctgc gggcgccggg acccgcggtg gcgtgggctc ctgcgggggc  
301 gcacattcc agcacaccgt gcagctcctt gtgtacgct tcccggacca gctgaccgtc  
361 tccccagcag ccctgggtgc tggtagcccg gaggtggcct gtacggccca caaagtcacg  
421 cccgtggacc ccaacgcgct ctccttctcc ctgctcgtcg ggggcccagga actggagggg  
481 gcgcaagccc tgggcccgga ggtgcaggag gagggaggag agccccaggg ggacgaggac  
541 gtgctgttca gggtagacaga gcgctggcgg ctgccgccc tggggacccc tgtcccggcc  
601 gccctctact gccaggccac gatgaggctg cctggcttg agctcagcca ccgccaggcc  
661 atccccgtcc tgcacagccc gacctcccgg gagcctccc acaccacctc cccggagcct  
721 cccaacacca cctccccgga gtctcccgac accacctccc cggagtctcc cgacaccacc  
781 tcccagagc ctcccagac cacctcccag gagcctccc acaccacctc ccaggagcct  
841 cccgacacca cctccccgga gcctcccag aagacctccc cggagcccgc ccccagcag  
901 ggctccacac acaccccag gagcccagg tccaccagga ctgcgcgcc tgagatctcc  
961 caggtggggc ccacgcagg agaagtgat ccaacaggct cgtccaaacc tgcgggtgac  
1021 cagctgcccc cggctctgtg gaccagcagt gcggtgctgg gactgctgct cctggccttg  
1081 cccacgtatc acctctgaa acgctgccc cacctggctg aggacgacac ccaccacca  
1141 gcttctctga ggcttctgcc ccaggtgtcg gcctgggctg ggtaagggg gaccggccag  
1201 gtcgggatca gcccctctg agtggccagc ctttcccct gtgaaagcaa aatagcttgg  
1261 accccttcaa gttgagaact ggtcagggca aacctgcctc ccattctact caaagtcac  
1321 cctctgctca cagagatgga tgcatgttct gattgcctct ttggagaagc tcatcagaaa  
1381 ctcaaaagaa ggccactgtt tgtctcacct acccatgacc tgaagcccct ccctgagtgg  
1441 tccccacctt tctggacgga accacgtact ttttacatac attgattcat gtctcacgtc  
1501 tccttaaaaa tgcgtaagac caagctgtgc cctgaccacc ctggggccct gtcgtcagga  
1561 cctcctgagg ctttggcaaa taaacctcct aaaatgat

(2) INFORMATION FOR SEQ ID NO:2726:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2726

1 tccatcacag ctttcccga ccagctgacc gtctcccag cagccctggg gcctgggtgac  
61 ccggagggtg cctgtacggc ccacaaagtc acgcccgtgg accccaacgc gctctcttc  
121 tccctgctcg tcgggggcca ggaactggag gggcgcaag ccctgggccc ggagggtcag  
181 gaggaggagg aggagcccca gggggacgag gacgtgctgt tcagggtgac agagcgctgg  
241 cggtgcccgc ccctggggac ccctgtccc cccgcccct actgccaggc cacgatgagg  
301 ctgcctggct tggagctcag ccaccgccag gccatcccc gtgagtcgcg

(2) INFORMATION FOR SEQ ID NO:2727:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2727

1 gtcgccgacg gccagtccct ccagggtgaag ccctgcagg tggagcccc ggagccggtg  
61 gtggccgtgg ccttggggcg ctcgcgccag ctcacctgcc gcctggcctg cgcggaccgc  
121 ggggcctcgg tgcagtggcg gggcctggac accagcctgg gcgcgggtga gtcggacacg  
181 ggccgcagcg tcctcacgt gcgcaacgcc tcgctgtcgg cgccggggac ccgctgtgc  
241 gtgggctcct gcggggggcg caccttcag cacaccgtgc agctccttgt gtacgggtgag  
301 gcgtc

(2) INFORMATION FOR SEQ ID NO:2728:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single



(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2728

1 ctgtttccag tctgcacag cccgacctcc ccggagcctc ccgacaccac ctccccggag  
 61 cctcccaaca ccacctcccc ggagtctccc gacaccacct ccccgagtc tcccagacc  
 121 acctccagg agctcccgga caccacctcc caggagcctc ccgacaccac ctcccaggag  
 181 cctcccgaca ccacctcccc ggagcctccc gacaagacct ccccgagacc cccccccag  
 241 cagggtcca cacaccccc caggagcca ggctccacca ggactcgccg ccctgagatc  
 301 tcccaggctg ggccacgca gggagaagtg atcccaacag gctgtgagtt ctg

(2) INFORMATION FOR SEQ ID NO:2729:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2729

1 ctctccccag cgtccaaacc tgcgggtgac cagctgcccg cggctctgtg gaccagcagt  
 61 gcgggtgctg gactgtgct cctggccttg ccacgtatc acctctggaa acgctgccg  
 121 cacctggctg aggacgacac ccacccacca gcttctctga ggcttctgcc ccagggtgtc  
 181 gcctgggtg ggtaagggg gaccggccag gtcgggatca gccctctctg agtggccagc  
 241 ctttccccct gtgaaagcaa aatagcttgg acccttcaa gttgagaact ggtcagggca  
 301 aacctgcctc ccattctact caaagtcac cctctgttca cagagatgga tgcattgtct  
 361 gattgcctct ttggagaagc tcatcagaaa ctcaaaagaa ggccactgtt tgtctcacct  
 421 acccatgacc tgaagcccc cctgagtggt tccccacct tctggacgga accacgtact  
 481 ttttacatac attgattcat gtctcacgtc tccctaaaaa tgcgtaagac caagctgtgc  
 541 cctgaccacc ctgggcccc gtcgtcagga cctcctgagg ctttggaata taaacctcct  
 601 aaaatgat

(2) INFORMATION FOR SEQ ID NO:2730:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2730

1 gggactgagc atggatttcg gactggccct cctgctggcg gggcttctg ggtcctcct  
 61 cggccagtc ctccagggtga agccctgca ggtggagccc ccggagccg tggtgccgt  
 121 ggccttgggc gcctgcgcc agctcacctg ccgcctggcc tgcgcggacc gcggggcctc  
 181 ggtgcagtg cgggccttg acaccagcct gggcgccgtg cagtcggaca cgggcccag  
 241 cgtcctcacc gtgcgaacg cctcgtgtc ggcggccggg acccgctgt gcgtgggctc  
 301 ctgcgggggc cgcaccttc agcacaccgt gcagtcctt gtgtacgct tcccggacca  
 361 gctgaccgtc tcccagcag cctggtgcc tggtagccg gagggtgacct gtacggcca  
 421 caaagtcacg ccctggacc ccaacgcgt ctccttctc ctgctcgtc ggggccagga  
 481 actggaggg gcgcaagccc tgggcccga ggtgcaggag gaggaggag agccccagg  
 541 ggacgaggac gtgtgttca ggtgacaga gcgctggcg ctgcccgc tgggacccc  
 601 tgtcccgcgc gccctctact gccaggccac gatgaggtg cctggcttg agctcagcca  
 661 ccgccaggcc atccccgtc tgcacagccc gacctcccc gagcctccc acaccacctc  
 721 cccggagtct cccgacacca cctccccga gtctccgac accacctccc cggagcctc  
 781 cgacaccacc tcccggagc ctcccgacaa gacctcccc gagcccgccc ccagcaggg  
 841 ctccacacac accccagga gccaggctc caccaggact cgccgcctg agatctcca  
 901 ggtggggccc acgaggag aagtgatccc aacaggctc tccaaacct cgggtgacca  
 961 gctgcccgc gctctgtga ccagcagtc ggtgctggga ctgctgtcc tggcctgccc  
 1021 cagtatcac ctctgaaac gctgcggca cctggctgag gacgacacc acccaccagc  
 1081 ttctctgagg cttctgccc aggtgtcggc ctgggctggg ttaagggga cggccagg  
 1141 cgggatcagc cctcctgag tggccagcct tccccctgt gaaagcaaaa tagcttgac  
 1201 cccttcaagt tgagaactg tcagggcaaa cctgcctccc attctactca aagtcaccc  
 1261 tctgttcaca gagatggat catgttctga ttgcctctt ggagaagctc atcagaaact  
 1321 caaaagaagg cactgtttg tctcacctac ccatgacctg aagccccctc ctgagtgtc  
 1381 cccaccttgc tggacggaac cagctacttt ttacatacat tgattcatgt ctcacgtctc  
 1441 cctaaaaatg cgtaagacca agctgtgccc tgaccacctt gggccctgt cgtcaggacc  
 1501 tctgaggct ttggcaata aacctcctaa aatgataaaa aaaaaa

(2) INFORMATION FOR SEQ ID NO:2731:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2731

1 ctgcagctcc ggaacgggg ggggtgctc tccaccgcc ctgtgggcc gcccgggaaa

61 gtgcaggcgg gccgggcgg gtggctcacg cctgtgatct cagcactttg ggaggccgag  
121 gtgggaggat cacctgaggt cgggagttcg aggccagcct gcccaacatg gagaaccctt  
181 gtctctacta aagatacaaa attagccagg cgtggtgacg catgcctgta atcccagcta  
241 ctggagtggtc tgaggcagga gaatcgcttg agcccgggag acagaggttg cggtagctg  
301 agatcgacc attgactcc agcctgggca acaagagcga aactcagaaa aaaaagaaaa  
361 gaaagtgcag gggaccggc gtcgggtgg gggcgcgct gccagcctc tgtcccactt  
421 ccatgcactt gacctcgacc ctccggctc cgtctcgat ctcccgtg ctgaatatga  
481 ggcttggaa agaccagac ctctctgct gcccgctctg agtggccccg ggaccggcc  
541 ccatctttg ccccagccc ctgctctct gcccgctcca gggtcggggg tcaggccagg  
601 aaagccctt gggaagcccc cggggagcag ctggagcggg gtcgcccggg ggcgggaagg  
661 agtggggcgc tctatttaag cggcttcccc gcggcctcgg gacagagggg actgaagcatg  
721 gatttcggac tggccctct gctggcgggg cttctggggc tcctctcctg tgagaaggg  
1 atggatttcg gactggccct cctgctggcg gggcttctgg ggctcctct cggccagtcc  
61 ctccaggtga agccctgca ggtggagccc ccggagccgg tgggtggcgt ggccttggg  
121 gcctcgccc agctcacctg ccgctggcc tgcgcggacc gcggggcctc ggtgcagtgg  
181 cggggcctgg acaccagcct gggcgcggtg cagtgcgaca cgggcccag cgtcctcacc  
241 gtgcgaacg cctcgctgtc ggcggcggg acccgctgt gcgtgggctc ctgcccggg  
301 cgcaccttc agcacaccgt gcagctcct gtgtacgcct tcccggacca gctgaccgtc  
361 tccccagcag ccctggtgcc tggtagccg gaggtggcct gtacggccca caaagtacg  
421 cccgtggacc ccaacgcgt ctcttctcc ctgctcgtc gggggcagg atggagggg  
481 gcgcaagccc tggggccgga ggtgcaggag gaggaggagg agccccagg ggacgaggac  
541 gtgctgttca ggtgacaga gcgctggcg ctgccccc tggggacccc tgtcccggc  
601 gccctctact gccaggccac gatgagcgt cctggcttg agctcagcca ccgcccagg  
661 atccccgtc tgacagccc gacctcccc gagcctccc acaccacct cccggagcct  
721 cccaacacca cctccccgga gtctcccgac accacctccc cggagtctc cgacaccac  
781 tcccaggagc ctcccgacac cactcccgag gagcctccc acaccacct cccagagcct  
841 cccgacacca cctccccgga gcctcccgac aagacctccc cggagccgc ccccagcag  
901 ggctccacac acacccccag gagccaggg tccaccagga ctgcggccc tgagatctc  
961 caggctggg ccacgcagg agaagtgat ccaacaggct cgtccaaacc tgcgggtgac  
1021 cagctgccc cggctctgtg gaccagcagt gcggtgctg gactgctgt cctggcctt  
1081 cccacgtatc acctctgga acgctgccc cactggctg aggacgacac ccaccacca  
1141 gcttctctga ggttctgccc ccaggtgctg gcctgggct ggttaagggg gaccggccag  
1201 gtcgggatca gcccctcctg agtgccagc ctttcccct gtgaaagcaa aatagcttg  
1261 accccttcaa gttgagaact ggtcagggca aacctgcct ccattctact caaagtcatc  
1321 cctctgtcga cagagatgga tgcatttct gattgcctt ttggagaagc tcatcagaaa  
1381 ctcaaaagaa ggccactgt tgtctacact acccatgacc tgaagccct ccctgagtgg  
1441 tccccacctt tctggacgga accacgtact tttacatac attgattcat gtctcacgtc  
1501 tccctaaaaa tgcgtaagac caagctgtgc cctgaccacc ctggggccct gtcgtcagga  
1561 cctcctgagg ctttggcaaa taaacctctc aaatgat  
1 tccatcacag ccttcccgga ccagctgacc gtctcccag cagccctggt gcctggtgac  
61 ccggaggttg cctgtacggc ccacaaagtc acgcccgtg accccaacgc gctctcctc  
121 tcctgtctg tcgggggcca ggaactggag gggcgcaag ccctgggccc ggaggtgacg  
181 gaggaggagg aggagcccca ggggagcag gacgtgctg tcagggtgac agagcgtg  
241 cggctgccc ccctggggac cctgtcccg cccgcccct actgccagc cacgatgagg  
301 ctgcccgtg tggagctcag ccaccgca gcatccccg gtgagtcgg  
1 gtcgcccag gccagtcct ccaggtgaag ccctgcagg tggagcccc ggagccggtg  
61 gtggcctg ccttgggccc ctgcgcccag ctacactgccc gcctggccc gcggaccgc  
121 ggggcccctg tgcagtggc gggcctggac accagcctg gcgcggtgca gtcggacacg  
181 ggcgcagcg tctcaccgt gcgcaacgc tcgctgtcgg cggccgggac ccgctgtgc  
241 gtgggctcct gcgggggccc cacttccag cacaccgtg agtccttgt gtacggtgag  
301 gcgtc  
1 ctgtttccag tctgacag cccgacctc ccggagcctc ccgacaccac ctccccggag  
61 cctcccaaca ccactcccc ggagtctccc gacaccact ccccgagtc tcccgacac  
121 acctccagg agcctcccga caccacctc caggagcctc ccgacaccac ctcccaggag  
181 cctcccgaca ccactcccc ggagcctccc gacaagacct ccccgagcc cccccccag  
241 cagggtcca cacacacccc caggagccca ggctccacca ggactcgccg ccctgagatc  
301 tcccaggctg gggccacgca gggagaagt atcccaacag gctgtgagtt ctg  
1 ctctcccag cgtccaaacc tgcgggtgac cagctgccc cggctctgtg gaccagcagt  
61 gcggtgctg gactgctgt cctggcctt gccacgtat acctctgaa acgctgccc  
121 cactggctg aggacgacac caccaccca gcttctctga ggttctgccc ccaggtgtc  
181 gcctgggctg ggttaagggg gaccggccag gtcgggatca gcccctcct agtggccagc  
241 ctttcccct gtgaaagcaa aatagcttg acccctcaa gttgagaact ggtcagggca  
301 aacctgcctc ccattctact caaagtcat cctctgttca cagagatgga tgcatttct  
361 gattgcctt ttggagaagc tcatcagaaa ctcaaaagaa ggccactgt tgtctacct  
421 acccatgacc tgaagccct ccctgagtgg tccccacct tctggacgga accacgtact  
481 tttacatac attgattcat gtctcacgtc tccctaaaaa tgcgtaagac caagctgtgc  
541 cctgaccacc ctggggccct gtcgtcagga cctcctgagg ctttggcaaa taaacctct  
601 aaatgat

```

1 gggactgagc atggatttcg gactggccct cctgctggcg gggcttctgg ggctcctcct
61 cggccagtcc ctccaggtga agcccctgca ggtggagccc cgggagccgg tggggccgt
121 ggccttgggc gcctcgccc agctcacctg ccgctggcc tgcgaggacc gcggggcctc
181 ggtgcagtgg cggggcctgg acaccagcct gggcgcggtg cagtcggaca cggggccag
241 cgtcctcacc gtgcgcaacg cctcgtgtc ggcggccggg acccgcggtg gcgtgggtc
301 ctgcgggggc cgcaccttcc agcacaccgt gcagctcctt gtgtadgctt tcccggacca
361 gctgaccgtc tcccagcagc ccctggtgcc tggtgaccgg gaggtggcct gtaccggcca
421 caaagtcacg cccgtggacc ccaacgcgct ctccttctcc ctgctcgtcg ggggccagga
481 actggagggg gcgcaagccc tggggccgga ggtgcaggag gaggaggagg agccccaggg
541 ggacgaggac gtgctgttca ggtgacaga gcgctggcgg ctgccgcccc tggggacccc
601 tgtcccggcc gccctctact gccaggccac gatgaggctg cctggcttgg agctcagcca
661 ccgccaggcc atccccgtcc tgcacagccc gacctccccg gaggctcccc acaccacctc
721 cccggagtct cccgacacca cctccccgga gtctcccgac accacctccc cggagcctcc
781 cgacaccacc tcccggagc ctcccgacaa gacctccccg gagcccgagg cccagcaggg
841 ctccacacac acccccagga gccaggctc caccaggact cgcgcctctg agatctccca
901 ggctgggccc acgcaggagg aagtgtatcc aacaggctcg tccaaacctg cgggtgacca
961 gctgcccgcg gctctgtgga ccagcagtg cgtgtgtgga ctgctgtctc tggccttggc
1021 cagtatcac ctctggaaac gctgccggca cctggctgag gacgacaccc acccaccagc
1081 ttctctgagg cttctgcccc aggtgtcggc ctgggctggg ttaaggggga ccggccaggt
1141 cgggatcagc cctcctgag tggccagcct tccccctgt gaaagcaaaa tagcttgac
1201 cgggtcaagt tgagaactgg tcagggcaaa cctgcctccc attctactca aagtcattccc
1261 tctgttcaca gagatggatg catgttctga ttgcctctt ggagaagctc atcagaaact
1321 caaaagaagg ccactgtttg tctcacctac ccatgacctg aagcccctcc ctgagtggtc
1381 cccacctttc tggacggaac cagctacttt ttacatacat tgattcatgt ctcacgtctc
1441 cctaaaaatg cgtaagacca agctgtgcc tgaccacctt gggcccctgt cgctaggacc
1501 tcctgaggct ttggcaata aacctcctaa aatgataaaa aaaaaa

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## (2) INFORMATION FOR SEQ ID NO:2732:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2732

```

1 ggaattccgg gcccggtctt tctcccgc gccgcggcc tggccccgg gactggcctc
61 cagctccgac tcgtccgagc tgaagcccag cagcactttg ctgccagccg cggggcgggc
121 ggaggcgccc cggggccctc ccaggaggct ctctgggcca gagggcagag ttcggcacag
181 gccccagga gtccgtaagt aggagaggtc gcccgagacc gggcgagccc ccatcccgc
241 ggcgcggccc gccgctggtc ccgcggtgc gaccgtggcg gctgccgctg gaaaatgtct
301 caggagaggg ccacgttcta ccggcaggag ctgaacaaga caatctggga ggtgccgag
361 cgttaccaga acctgtctcc agtgggctct ggcgcctatg gctctgtgtg tgctgctttt
421 gacacaaaaa cgggggttacg tgtggcagtg aagaagctct ccagaccatt tcagtccatc
481 attcatgcga aaagaacctc cagagaactg cggttactta aacatatgaa acatgaaaat
541 gtgattggtc tgttggacgt ttttacacct gcaaggctct tggaggaaat caatgatgtg
601 tatctggta ccatctcat gggggcagat ctgaacaaca ttgtgaaatg tcagaagctt
661 acagatgacc atgttcagtt cttatctac caaattctcc gaggtctaaa gtatatacat
721 tcagctgaca taattcacag ggacctaaaa cctagtaatc tagctgtgaa tgaagactgt
781 gagctgaaga ttctggattt tgactggct cggcacacag atgatgaaat gacaggctac
841 gtggccacta ggtggtacag ggctcctgag atcatgtga actggatgca ttacaaccag
901 acagttgata tttggtcagt gggatgcata atggccgagc tgttgactgg aagaacattg
961 tttcctgta cagaccatat tgatcagttg aagctcattt taagactcgt tggaaaccca
1021 ggggctgagc ttttgaagaa aatctcctca gactctgcaa gaaactatat tcagtctttg
1081 actcagatgc cgaagatgaa ctttgcaat gtatttattg gtgccaatcc cctggctgtc
1141 gacttgctgg agaagatgct tgtattggac tcagataaga gaattacagc ggcccaagcc
1201 cttgcacatg cctactttgc tcagtaccac gatcctgatg atgaaccagt ggccgatcct
1261 tatgatcagt ctttgaagag cagggacctc cttatagatg agtggaaaag cctgacctat
1321 gatgaagtca tcagctttgt gccaccaccc cttgaccaag aagagatgga gtcctgagca
1381 cctggtttct gttctgttga tcccaattca ctgtgagggg aaggcctttt cacggggaact
1441 ctccaaatat tattcaagtg cctctgttg cagagatttc ctccatggtg gaaggggggtg
1501 tgcgtgcgtg tgcgtgcgtg ttagtgtgtg tgcattgtg

```

## (2) INFORMATION FOR SEQ ID NO:2733:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2733

```

1 aattaacct cactaaagg agtcgactcg atccccccg ctcagccct tttttctttt

```

```

61 ttttttcatt ttcagttcag gagagtttta gcttaattat aggctacaga accagctttg
121 ggcttcatct atcctttcta atatttactg ttctctattt ctctaactct agctctttat
181 ttcttccctt tactttcact gggcttattt tgctatagtg gaatgcagag ggatgagtat
241 tccaggaagg cacaaaaact gtgccaagtc ttggagctag ggatgagtgg gaaagggaca
301 tgttcaacca ttttaggcca ttccctcccc acctcccage tcccagatat gtgcccctcg
361 caggaggagc ccaggaatgg gccaaacacc tcactttctt gctctgaggg ccaccccage
421 cctcccatca acagctctag aaacccaatg gtccttcttg gaaacacggg gcctgcatca
481 atcagagggtg tttgaaccat gtccctctgg gcctgagggg cagaagggga cacaatatgt
541 aatgtaagga gccctgtca tcagaaatct gacttaatct gtttccagat attagacttc
601 cacataaaag ttgacttggg aaaagacttc tgctgctaaa caaaagtga aactgccttg
661 gtgataaaat ataagcagac cagctttctc ttctagcttt ccctctcatt tcccataaga
721 ttttgggtcaa gttatttaat ctctctgcat cgttttctc ttctatgaaa tgggcatgat
781 aataatggta tatacctcct caaggggggtg ataactgtaa cagagtcctt agcacagcac
841 tctgtctcta cgggagtga ttttcattgt ttttctctt cctgttggag aaagtaagaa
901 gaaaacagcg cttttatggc ttcccatggg gaatggctgg ggcgcgtctg tgtccctgtc
961 tcctctctgg ctccctgtgg cctgaacagc cagaaggag ccatgccatg ctgtttcagc
1021 cctcagcttc cctcttgcct ttcttagaaa agtctttggg gccagctcc agctcagcag
1081 attcaggatc ccccttcac atgacttggg caacgccctg ctccagccaa ggtcctctga
1141 gagttccaag cttctccact ccctataaaa ggccggcgga acagccagag gagcagagag
1201 gcaaagaaac attgtgaaat ctccaactct taaccttcaa catgaaagtc tctgcagtgc
1261 ttctgtgcct gctgctcatg acagcagctt tcaaccccca gggacttgcct cagccaggta
1321 agtcacctcc cttcagactc ccctctctt cctctgttt ctctattcaa ggaagaccta
1381 agcccagatg ctccctccact ttttttttag attgagtctc attatgttgc ccaggctgaa
1441 gtgcaggggt gcgactcttg ctcatgcaa ccttcacctc ccaggttcaa gcgattctct
1501 tgcctcagcc ttctgagtag ctgtgattac aggcaccgct atcacgtgca gctaattttt
1561 gtatttttag tagagaagg gtttactat gttggccagg ctggtctcaa actcttgacc
1621 tcaagtgatc ctcccgctc ggccctccaa agtgctggga ttacaggcgt gagcaccagg
1681 cccagccaag tgcccactt ctaagccac cagaatagta aggcctctca gaggttact
1741 ttaacatcta attttaaga tagaaagctg aagcccatgt tggaggcaga agggacccta
1801 gccatccacc tccaggttat tgcagagcaa gaatgaaacc taagcttctg actccagatt
1861 tagggccttt tctttgacct catctgatcg tcccaaactc tgcagatctg gaccacaccc
1921 agaccttccc actggccttg ccctgagctg cccctagatg gctgtgacct gtctccacca
1981 tgcagctgag cctttgagah cctgaggcac atgtcacagg tcccactca cctcagggtc
2041 taggggtggg gtgctgggct tgggggtgag taagatctac ttcttctct ttgctttgca
2101 tcccatacag atgtccctg ctgtattcaa gctgagaaaa gcctaacaca tctcaaaagt
2161 ctttttcttt gtaactattt ctgatgcac tcaacgtccc atctacttgc tgcctcacat
2221 ttgacagtaa gaagatctcc ttgcagaggc tgaagagcta tgtgatcacc accagcaggt
2281 gtcccagaaa ggctgtcatg tgggtagaaa aatccctgct cgcctggctc ctcccactc
2341 ccacattccc caatccaaag ttctgcccc gtagacagac gtcagatcta cttgagatct
2401 taggatgaga tctagccaga ctgtgtgatg caaaatcctc caattttgyc tgcacaacag
2461 gtccaaagag gacctataat ttcccacacc ttgtttcctg gatgggcacc agcccacacc
2521 ctttagcaga tgccaggatc agtttcccag gggcagcaag agcagtggct gcctccagag
2581 acccctctg tccacacacc tcctacttcc tgtcctggag gggtgccctc tcacctgtag
2641 taggtggacc aggcagggtt agaaccagct gtgtcatctc ctaggtaaac cctcaaaggg
2701 ttccatctaa ctgtgccaga tctccttct ccacagcttc agaaccacac tgggcaagga
2761 gatctgtgct gacccaaagg agaagtggt ccagaattat atgaaacacc tgggcccggaa
2821 agctcacacc ctgaagactt gaactctgct acccctactg aaatcaagct ggagtacgtg
2881 aaatgacttt tccattctcc tctggcctcc tcttctatgc tttggaatac ttctaccata
2941 attttcaa ataggatgcatt cgtttttgtg attcaaaatg tactatgtgt taagtaatat
3001 tggctattat ttgacttgtt gctggtttgg agtttatttg agtattgtg atcttttcta
3061 aagcaaggcc ttgagcaagt aggttgctgt cttaagccc ccttcccttc cactatgagc
3121 tgetggcagt gggtttgtat tgggttccca ggggttgagc

```

## (2) INFORMATION FOR SEQ ID NO:2734:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2734

```

1 ggcaaaagaaa cattgtgaaa tctccaactc ttaaccttca acatgaaagt ctctgcagtg
61 cttctgtgcc tgctgctcat gacagcagct ttcaaccccc agggacttgc tcagccagat
121 gcaactcaag tcccacttac ttgctgtctc acatttagca gtaagaagat ctccctgcag
181 aggtgaaga gctatgtgat caccaccagc aggtgtcccc agaaggctgt catcttcaga
241 accaaactgg gcaaggagat ctgtgtgac ccaaaggaga agtgggtcca gaattatatg
301 aaacacctgg gccggaaagc tcacacctg aagacttgaa ctctgctacc cctactgaaa
361 tcaagctgga gtacgtgaaa tgacttttcc attctcctct ggccctctct tctatgcttt
421 ggaatacttc taccataatt ttcaaataag atgcattcgg ttttgtgatt caaaatgtac
481 tatgtgttaa gtaatatgg ctattatttg acttgttgc ggtttggagt ttatttgagt

```

541 attgctgatac ttttctatag caaggccttg agcaagtagg ttgctgtctc taagccccct  
 601 tcccttccac tatgagctgc tggcagtggg tttgtattcg gttcccaggg gttgagagca  
 661 tgcctgtggg agtcatggac atgaagggat gccgcaatgt aggaaggaga gctctttgtg  
 721 aatgtgaggt gttgctaaat atgttattgt ggaagatga atgcaatagt aggactgtg  
 781 acattttgca gaaaatacat tttatttaaa aatctcctaa aaaaaaaaaa aaaaaaaaaa  
 841 aagaaaaaaa aaaaa

## (2) INFORMATION FOR SEQ ID NO:2735:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2735

1 acattgtgaa atctccaact cttaaccttc aacatgaaag tctctgcagt gcttctgtgc  
 61 ctgctgctca tgacagcagc tttcaacccc cagggacttg ctacgccaga tgcactcaac  
 121 gtcccatcta ctgctgctt cacatttagc agtaagaaga tctccttgca gaggtgaag  
 181 agctatgtga tcaccaccag caggtgtccc cagaaggctg tcatcttcag aaccaactg  
 241 ggcaaggaga tctgtgctga cccaaaggag aagtgggtcc agaattatat gaaacacctg  
 301 ggccggaaag ctacaccct gaagacttga actctgtac ccctactgaa atcaagctgg  
 361 agtactgtaa atgacttttc cattctcctc tggcctcctc ttctatgctt tggaatactt  
 421 ctaccataat tttcaaatag gatgcattcg gttttgtgat tcaaaatgta ctatgtgtta  
 481 agtaatatg gctattattt gacttgttgc tggtttgag tttattttag tattgtgat  
 541 cttttctaaa gcaaggcctt gagcaagtag gttgctgtct ctaagcccc ttccctcca  
 601 ctatgagctg ctggcagtgg gttgtattcg gttcccaggg gttgagagca tgcctgtggg  
 661 agtcatggac atgaagggat gctgcaatgt aggaaggaga gctctttgtg aatgtgaggt  
 721 tgttgctaaa ttattgttta ttgtgaaag atgaatgcaa tagtaggact gctgacattt  
 781 tgcagaaaat acattttatt taaaatctcc taaaaaaaaa aaaaa

## (2) INFORMATION FOR SEQ ID NO:2736:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2736

1 aaaagccgg cggaacagcc agaggagcag agaggcaaag aaacattgtg aaatctccaa  
 61 ctcttaacct tcaacatgaa agtctctgca gtgcttctgt gcctgtgct catgacagca  
 121 gctttcaacc cccagggact tgctcagcca gatgcactca acgtcccac tacttgtgc  
 181 ttcacattta gcagtaagaa gatctccttg cagaggctga agagctatgt gatcaccacc  
 241 agcaggtgtc cccagaaggc tgtcatcttc agaaccaaac tgggcaagga gatctgtgct  
 301 gacccaaagg agaagtgggt ccagaattat atgaacacc tgggccggaa agctcacacc  
 361 ctgaagactt gaactctgct acccctactg aaatcaagct ggagtacgtg aaatgacttt  
 421 tccattctcc tctggcctcc tcttctatgc tttggaatac ttctaccata attttcaat  
 481 aggatgcatt cggttttgtg attcaaaatg tactatgtgt taagtaatat tggctattat  
 541 ttgacttgtt gctggtttgg agtttatttg agtattgtg atcttttcta aagcaaggcc  
 601 ttgagcaagt aggttgctgt ctctaagccc ccttcccttc cactatgagc tgctggcagt  
 661 gggtttgtat tgggttccca ggggttgaga gcatgcctgt gggagtcatg gacatgaagg  
 721 gatgctgcaa ttaggaagg agagctcttt gtgaatgtga ggtgttgcta aatatgttat  
 781 tgtggaagaa tgaatgcaat agtaggactg ctgacatttt gcagaaaata cattttattt  
 841 aaaatctcca aaaaaaaaaa

## (2) INFORMATION FOR SEQ ID NO:2737:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2737

1 aattaacct cactaaagg agtcgactcg atccccccgc ctacgcccct tttttctttt  
 61 ttttttcatt ttcagttcag gagagtttta gcttaattat aggctacaga accagctttg  
 121 ggcttcatct atcctttcta atatttactg tttcctattt ctctaactct agctctttat  
 181 tcttccctt tactttcact gggcttattt tgctatagt gaatgcagag ggatgagat  
 241 tccaggaagg cacaataact gtgccaagtc ttggagctag ggatgagtg gaaagggaca  
 301 tgttcaacca ttttaggcca ttcctcccc acctcccagc tccagatat gtgcccctcg  
 361 caggaggagc ccagggaatg gccaaacacc tcacttcttt gctctgagg ccaccccagc  
 421 cctcccatca acagctctag aaacccaatg gtccttctg gaaacacggg gcctgcatca  
 481 atcagaggtg tttgaacat gtccctctgg gcctgagggg cagaagggga cacaatatgt  
 541 aatgtaagga gccctgtca tcagaaatct gacttaatct gttttcagat attagacttc

601 cacataaaag ttgacttggg aaaagacttc tgctgctaaa caaaagtga aactgccttg  
661 gtgataaaat ataagcagac cagctttctc ttctagcttt cctctcatt tcccataaga  
721 ttttgggtcaa gttatttaac ctctctgcat ccgtttcctc ttctatgaaa tgggcatgat  
781 aataatggta tatacctcct caaggggggt ataacgtgaa cagagtcctt agcacagcac  
841 tctgtctcta cgggagtga ttttcattgt tttctcttt cctgttggag aaagtaagaa  
901 gaaaacagcg cttttatggc ttcccatggg gaattggctgg ggcgctctg tgtccctgtc  
961 tctctcttgg ctcttcttgg cctgaacagc cagaaggaag ccatgccatg ctgtttcagc  
1021 cctcagcttc cctcttgcac ttcttagaaa agtctttggg gccagctcc agctcagcag  
1081 attcaggatc ccccttcac atgacttggg caacgccctg ctcaggccaa ggtcctctga  
1141 gagttccaag cttctccact cctataaaaa ggccggcgga acagccagag gagcagagag  
1201 gcaaagaaac attgtgaaat ctccaactct taaccttcaa catgaaagtc tctgcagtgc  
1261 ttctgtgctt gctgctcatg acagcagctt tcaaccccca gggacttgc cagccaggta  
1321 agtcacctcc cttcgactct cctctctttt cctctgttt ctctattcaa ggaagacctt  
1381 agcccagatg ctctccact ttttttttag attgagtctc attatgttgc ccaggctgaa  
1441 gtgcaggggt gcgatcttgg ctcatgtcaa ccttcacctc ccagggtcaa gcgattctct  
1501 tgcctcagcc ttctgagtag ctgtgattac aggcaccgcc atcacgtgca gctaattttt  
1561 gtatttttag tagagaaggg gtttcaactat gttggccagg ctggtctcaa actcttgacc  
1621 tcaagtgtac ctccgtctc ggctcccaa agtgctggga ttacaggcgt gagcaccagg  
1681 cccagccaag tgccccactt ctaagcccac cagaatagta aggtcctca gaggctcact  
1741 ttaacatcta attttaaaga tagaaagctg aagcccatgt tggaggcaga agggacccta  
1801 gccatccacc tccagggtat tgcagagcaa gaatgaaacc taagcttctg actccagatt  
1861 tagggccttt tctttgacct catctgatcg tcccaaactc tgcagatctg gaccacacc  
1921 agaccttccc actggccttg cccgtggcct cccctagatg gctgtgacat gtctccacca  
1981 tgcagctgag ctttgagah cctgaggcac atgtcacagg tcccacctca cctcagggtc  
2041 taggggtggg ctgtctgggt tgggggtgag taagatctac ttcttctct ttgttttgca  
2101 tcccatacag atgtccctg ctgtattcaa gctgagaaaa gcctaacaca tctcaaaagt  
2161 ctttttcttt gtaactattt ctatgtcac tcaacgtccc atctacttgc tgettccat  
2221 ttagcagtaa gaagatctcc ttgcagaggc tgaagagcta tgtgatcacc accagcagg  
2281 gtccccagaa ggtgtcatg tgggtagaaa aatccctgct cgcctggctc ctccccactc  
2341 ccacattccc caatccaaag ttctgcccc gtagacagac gtcagactga cttgagatct  
2401 taggatgaga tctagccaga ctgtgtgatg caaatcctc caattttggc tgcacaacag  
2461 gtccaaagag gacctataat tccccacacc ttgtttctg gatgggcacc agccccacc  
2521 ctttagcaga tgccaggatc agtttccag gggcagcaag agcagtggt gcctccagag  
2581 acccttctg tccacacacc tctacttcc tgcctggag ggggtccct tcacctgtag  
2641 taggtggacc aggcaggttt agaaccaggt gtgtcatctc ctaggtaaac cctcaaagg  
2701 ttccatctaa ctgtgccaga tctcttctc ccacagcttc agaaccaaac tgggcaagga  
2761 gatctgtgt gacccaaagg agaagtggtt ccagaattat atgaaacacc tgggcccggaa  
2821 agctcacacc ctgaagactt gaactctgct accctactg aaatcaagct ggagtacgtg  
2881 aaatgacttt tccattctcc tctggcctc tcttctatgc ttgtgaatac tctaccata  
2941 attttcaaat aggatgcatt cggttttgtg attcaaaatg tactatgtgt taagtaatat  
3001 tggctattat ttgacttgtt gctggtttgg agtttatttg agtattgctg atcttttcta  
3061 aagcaaggcc ttgagcaagt aggttgtgt ctctaagccc ccttcccttc cactatgagc  
3121 tgctggcagt gggtttgtat tgggttccca ggggttgagc  
1 ggcaaagaaa cattgtgaaa tctccaactc ttaaccttca acatgaaagt ctctgcagt  
61 cttctgtgcc tgctgtcat gacagcagct ttcaaccccc agggacttgc tcagccagat  
121 gcaactcaacg tcccatctac ttgtgtctt acatttagca gtaagaagat ctcttgcag  
181 aggtgaaga gctatgtgat caccaccagc aggtgtcccc agaaggctgt catcttcaga  
241 accaaactgg gcaaggagat ctgtgtgac ccaaaggaga agtgggtcca gaattatag  
301 aaacacctgg gccggaaagc tcacacctg aagacttgaa ctctgctacc cctactgaaa  
361 tcaagctgga gtacgtgaaa tgacttttcc attctctctt ggctcctct tctatgcttt  
421 ggaatacttc taccataatt ttcaaatagg atgcattcgg tttgtgatt caaatgtac  
481 tatgtgttaa gtaattattg ctattatttg acttgttgc ggtttggagt ttatttgagt  
541 attgtgtatc ttttctatag caaggcctg agcaagtagg ttgtgtctc taagccccct  
601 tcccttccac tatgagctgc tggcagtggt tttgtattcg gttcccagg gttgagagca  
661 tgctgtggg agtcatggac atgaagggat gccgcaatgt aggaaggaga gctctttgtg  
721 aatgtgaggt gttgctaaat atgttattgt ggaaagatga atgcaatagt aggactgctg  
781 acattttgca gaaaatacat tttattttaa aatctcctaa aaaaaaaaa aaaaaaaaa  
841 aagaaaaaaaa aaaaa  
1 acattgtgaa atctccaact cttaaccttc aacatgaaag tctctgcagt gcttctgtg  
61 ctgctgtca tgacagcagc tttcaacccc cagggacttg ctcagccaga tgactcaac  
121 gtcccatcta cttgtgtgt cacttttagc agtaagaaga tctccttga gaggctgaag  
181 agctatgtga tcaccaccag caggtgtccc cagaaggctg tcatcttcag aaccaaactg  
241 ggcaaggaga tctgtgtga ccaaaggag aagtgggtcc agaattatat gaaacacctg  
301 ggccggaaa ctcacacct gaagacttga actctgtac ccctactgaa atcaagctgg  
361 agtacgtgaa atgacttttc cattctctc tggcctctc tctatgctt tggaaatctt  
421 ctaccataat tttcaaatag gatgcattcg gttttgtgat tcaaaatgta ctatgtgtta  
481 agtaaatatt gctattattt gacttgttgc tgggttggag tttatttgag tattgtgtat  
541 cttttctaaa gcaaggcctt gagcaagtag gttgtgtct ctaagcccc tctccttca



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601 ctatgagctg ctggcagtggt gttgtattcg gttcccagggt gttgagagca tgcctgtggg
661 agtcatggac atgaagggat gctgcaatgt aggaaggaga gctctttgtg aatgtgaggt
721 tgttgctaaa ttattgttta ttgtggaaag atgaatgcaa tagtaggact gctgacattt
781 tgcagaaaat acatttttatt taaaatctcc taaaaaaaaa aaaaa
1 aaaaggcccg cgaacagcc agaggagcag agaggcaaag aaacattgtg aaatctccaa
61 ctcttaacct tcaacatgaa agtctctgca gtgcttctgt gctgtctgt catgacagca
121 gctttcaacc cccagggact tgctcagcca gatgcactca acgtcccatc tacttgctgc
181 ttcacattta gcagtaagaa gatctccttg cagaggctga agagctatgt gatcaccacc
241 agcaggtgtc cccagaaggc tgtcatcttc agaaccaaac tgggcaagga gatctgtgct
301 gacccaaagg agaagtgggt ccagaattat atgaaacacc tgggccggaa agctcacacc
361 ctgaagactt gaactctgct acccctactg aaatcaagct ggagtagctg aaatgacttt
421 tccattctcc tctggcctcc tcttctatgc tttggaatac ttctaccata attttcaaat
481 aggatgcatt cggttttgtg attcaaaatg tactatgtgt taagtaatat ttgctattat
541 ttgacttgtt gctggtttgg agtttatttg agtattgctg atcttttcta aagcaaggcc
601 ttgagcaagt aggttgtgt ctctaagccc ccttcccttc cactatgagc tgcctggcag
661 gggtttgat tcggttccca ggggttgaga gcatgcctgt gggagtcag gacatgaagg
721 gatgctgcaa tgaaggaagg agagctcttt gtgaatgtga ggtgttgcta aatatgttat
781 tgtggaaga tgaatgcaat agtaggactg ctgacatttt gcagaaaata cattttattt
841 aaaatctcca aaaaaaaaaa

```

## (2) INFORMATION FOR SEQ ID NO:2738:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2738

```

1 cgcccgggca ggtcctctgc ctagcactgc tcccccaagg ctcccagaaa tctcaggtca
61 gaggcacgga cagcctctgg agctctctgc tgggtgggacc atgaactgcc agcagctgtg
121 gctgggcttc ctactcccca tgacagcttc aggcggggtc ctggggcttg cagaggtggc
181 gcccggtggc tactgtcac aatatgggta cctacagaag cctctagaag gatctaataa
241 cttcaagcca gaagatatca ccgaggtctt gagagctttt caggaagcat ctgaacttcc
301 agtctcaggt cagctggatg atgccacaag ggcccgcag aggcagcctc gttgtggcct
361 agaggatccc ttcaaccaga agacccttaa atacctgttg ctgggcccgt ggagaaagaa
421 gcacctgact ttccgcactt tgaacctgcc ctccaccctt ccaccccaca cagcccgggc
481 agccctgcgt caagccttcc aggaactggg caatgtgggt cccttgacct tccaagaggt
541 gcaggctggg gcgctgaca tccgcctctc cttccatggc cgccaaagct cgtactgttc
601 caatactttt gatgggcctg ggagagtcct ggcccatgcc gacatcccag agctgggcag
661 tgtgcacttc gacgaagacg agttctggac tgaggggacc taccgtgggg tgaacctgcg
721 catcattgca gcccatgaag tgggccatgc tctggggctt gggcactccc gatattccca
781 ggccctcatg gccccagtct acgagggcta ccggccccc tttaaagctg acccagatga
841 tgtggcaggg atccaggctc tctatggcaa gaagagtcca gtgataaggg atgaggaaga
901 agaagagaca gagctgcccc ctgtgcccc agtgcccaca gaaccagtc ccatgccaga
961 cccttgagct agtgaactgg atgccatgat gctggggccc cgtggggaag cctactgttt
1021 caagggggac tatgtgtgga ctgtatcaga ttcaggaccg ggccccttgt tccgagtgtc
1081 tgcccttttg gaggggtccc ccggaacact ggatgctgct gtctactcgc ctggaacaca
1141 atggattcac ttctttaagg gagacaaggt gtggcgctac attaatcca agatgtctcc
1201 tggcttcccc aagaagctga ataggtcaga acctaacctg gatgcagctc tctattggcc
1261 tctcaaccaa aaggtgttcc tctttaaggg ctccgggtac tggcagttgg acgagctagc
1321 ccgaactgac ttcagcagct accccaaacc aatcaagggt ttgtttacgg gagtgcacaa
1381 ccagccctcg gctgctatga gttggcaaga tggccgagtc tacttcttca agggcaaggt
1441 ctactggcgc ctcaaccagc agcttcgagt agagaaaggc tatcccagaa atatttccca
1501 caactggatg cactgtcgtc cccggactat agacactacc ccatcaggtg ggaataccac
1561 tccctcaggt acgggcataa ccttggtatc cactctctca gccacagaaa ccacgtttga
1621 atactgactg ctcaaccaca gacacaatct tggacattaa cccctgaggc tccaccacc
1681 accctttcat ttcccccca gaagcctaag gcctaatagc tgaatgaaat acctgtctgc
1741 tcagttagaac cttgcaggtg ctgtagcagg cgcaagaccg tagatctcag gcctctaaca
1801 cttccaactc cagccaccac tttctgtgct attttcactc ctgagaagtg ctcccctaac
1861 tcagatcccc taacttagat ttggcccca actccatttc ctgtctgtct tagacagccc
1921 ttccaactgt gtcattctct ctctggaggt caatggtgga gggagatgcc tgggtcctgt
1981 tcttctaca taaaatgcaa gaaaacagca tggccagtaa actgagcaag ggccttgtaa
2041 tcttgagaa tcacatttat gtgcttatga ttacgggcaa gctaattaac cttgttgaat
2101 cttagattcc ccatttgcaa cattaggtta agaccagtac tgcaggattg ttgactaaa
2161 tgaataactg tatgtgaagt gcctggcaca gtgtctggta catttgtgtt taataaaagc
2221 taactccatg ttcataagaa aaaaaaaaaa

```

## (2) INFORMATION FOR SEQ ID NO:2739:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2739

```
1 ggagaccggc cgcattggacc cagggacagt ggccaccatg cgtaagcccc gctgctccct
61 gcctgacgtg ctgggggtgg cggggctggt caggcggcgt cgccggtacg ctctgagcgg
121 cagcgtgtgg aagaagcgaa ccctgacatg gaggttacgt tccttcccc agagctccca
181 gctgagccag gagaccgtgc gggtcctcat gagctatgcc ctgatggcct ggggcatgga
241 gtcaggcctc acatttcatg aggtggattc cccccagggc caggagcccc acatcctcat
301 cgactttgcc cgcgccttc accaggacag ctaccccttc gacgggttgg ggggaccctc
361 agcccatgcc ttcttccctg gggagcaccc catctccggg gacactcact ttgacgatga
421 ggagacctgg acttttgggt caaaagcctc tcagcagctg gagcaggagc tggcaggcgg
481 ctcaccggtt gatgaggagc tgggcttcag ccggggctgg cgtgtgaatc ctctgggtcc
541 tggcagtcct gagcgctga gctgaatata gagggaaagag gctgggagca aggccgggtg
601 ctggggccgg caggctgtgt tctgaga
```

(2) INFORMATION FOR SEQ ID NO:2740:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2740

```
1 atgatcttac tcacattcag cactggaaga cggttggatt tcgtgcatca ttcgggggtg
61 tttttcttgc aaaccttgc ttggatttta tgtgctacag tctgcggaac ggagcagtat
121 ttcaatgtgg aggtttggtt acaaaagtac ggctaccttc caccgactga cccagaaatg
181 tcagtgtgc gctctgcaga gaccatgcag tctgccctag ctgccatgca gcagttctat
241 ggcattaaca tgacaggaaa agtggacaga aacacaattg actggatgaa gaagccccga
301 tgcggtgtac ctgaccagac aagaggtagc tccaaatttc atattcgctg aaagcgatat
361 gcattgacag gacagaaatg gcagcacaag cacatcactt acagtataaa gaacgtaact
421 ccaaaagtag gagaccctga gactcgtaaa gctattcgcc gtgcctttga tgtgtggcag
481 aatgtaactc ctctgacatt tgaagaagtt ccctacagtg aattagaaaa tggcaaacgt
541 gatgtggata taaccattat tttgcatctt ggtttccatg gggacagctc tccctttgat
601 ggagagggag gatttttggc acatgcctac ttccctggac caggaattgg aggagatacc
661 cattttgact cagatgagcc atggacacta ggaaatccta atcatgatgg aaatgactta
721 tttctttag cagtccatga actgggacat gctctgggat tggagcattc caatgacccc
781 actgccatca tggctccatt ttaccagtac atggaaacag acaacttcaa actaccta
841 gatgatttac agggcatcca gaagatatat ggtccacctg acaagattcc tccactaca
901 agacctctac cgacagtgc cccacaccgc tctattcctc cggtgaccc aaggaaaaat
961 gacaggccaa aacctcctcg gcctccaacc ggcagaccct cctatcccg agccaaaccc
1021 aacatctgtg atggaaactt taacactcta gctattcttc gtcgtgagat gttgttttc
1081 aaggaccagt ggttttggcg agtgagaaac aacagggtga tggatggata ccaatgcaa
1141 attacttact tctggcgggg ctgcccctc agtatcgatg cagtttatga aaatagcgac
1201 gggaattttg tgttctttaa agtgaaggga gacactctat ctgtaatcca agatggttgg
1261 ctctacaaat accattggaa atggattcta gaacaaaggc agtcagtgcc tgtgctctca
1321 agacaaactg aaaagcacia gacctatgaa gaattatctt ccatcacata ctaacaaaga
1381 acaatcagga attgaaatt taaaataaaa ggccatttac aattgcattc gaaaacacca
1441 aataccgagg gatcaatctg caaaaaatgt gcatgacctc tacattgaaa acaacaaaac
1501 actactaaat gttgtctttt aaaggcagct gg
```

(2) INFORMATION FOR SEQ ID NO:2741:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2741

```
1 tagaagttta caatgaagtt tcttctaata ctgctcctgc aggcactgc ttctggagct
61 cttcccctga acagctctac aagcctggaa aaaaataatg tgctatttgg tgagagatac
121 ttgaaaaaat tttatggcct tgagataaac aaacttccag tgacaaaaat gaaatatagt
181 ggaaacttaa tgaaggaaaa aatccaagaa atgcagcact tcttgggtct gaaagtgacc
241 gggcaactgg acacatctac cctggagatg atgcacgcac ctcgatgtgg agtccccgat
301 ctccatcatt tcagggaatg gccagggggg ccgctatgga ggaaacatta tatcactac
361 agaatcaata attacacacc tgacatgaac cgtgaggatg ttgactacgc aatccggaaa
421 gctttccaag tatggagtaa tgttaccctt ttgaaattca gcaagattaa cacaggcatg
481 gctgacattt tgggtgtttt tgcccgtgga gctcatggag acttccatgc ttttgatggc
541 aaaggtggaa tcctagccca tgcttttgg cctggatctg gcattggagg ggatgcacat
601 ttcgatgagg acgaattctg gactacacat tcaggaggca caaacttgtt cctcactgct
661 gttcacgaga ttggccattc cttaggtctt ggccattcta gtgatccaaa ggctgtaatg
721 ttcccacct acaaatatgt cgacatcaac acatttcgcc tctctgctga tgacatacgt
```

```

781 ggcattcagt cccctgatgg agacccaaaa gagaaccaac gcttgccaaa tcctgacaat
841 tcagaaccag ctctctgtga cccaatttg agttttgatg ctgtcactac cgtgggaaat
901 aagatctttt tcttcaaaga caggttcttc tggctgaagg tttctgagag accaaagacC
961 agtggttaatt taatttcttc cttatggcca accctgccat ctggcattga agctgcttat
1021 gaaattgaag ccagaaatca agtttttctt tttaaagatg acaaaactgt gtttaattagc
1081 aatttaagac cagagccaaa ttatcccaa agcatacatt cttttggttt tcctaacttt
1141 gtgaaaaaaa ttgatgcagc tgtttttaac ccacgttttt ataggacctt cttctttgta
1201 gataaccagt attggaggta tgatgaaagg agacagatga tggaccctgg ttatcccaaa
1261 ctgattacca agaacttcca aggaatcggg cctaaaattg atgcagtctt ctattctaaa
1321 aacaaatact actatttctt ccaaggatct aaccaatttg aatatgactt cctactccaa
1381 cgtatcacca aaacactgaa aagcaatagc tggtttggtt gttagaaatg gtgtaattaa
1441 tggtttttgt tagttcactt cagcttaata agtatttatt gcataattgc tatgtcctca
1501 gtgtaccact acttagagat atgtatcata aaaataaaat ctgtaaacca taggtaattga
1561 ttatataaaa tacataatat ttttcaattt tgaaaactct aattgtccat tcttgcttga
1621 ctctactatt aagtttgaaa atagttacct tcaaagcaag ataattctat ttgaagcatg
1681 ctctgtaagt tgcttcctaa catccttgga ctgagaaatt atacttactt ctggcataac
1741 taaaattaag tatatatatt ttggctcaaa taaaattg

```

## (2) INFORMATION FOR SEQ ID NO:2742:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2742

```

1 aaagaaggta agggcagtga gaatgatgca tcttgcatc cttgtgctgt tgtgtctgcc
61 agtctgctct gcctatcctc tgagtggggc agcaaaaagag gaggactcca acaaggatct
121 tgcccagcaa tacctagaaa agtactacaa cctcgaaaag gatgtgaaac agtttagaag
181 aaaggacagt aatctcattg ttaaaaaaat ccaaggaatg cagaagttcc ttgggttgga
241 ggtgacaggg aagctagaca ctgacactct ggagggtgat cgcaagccca ggtgtggagt
301 tcttgacgtt ggtcacttca gtccttttcc tggcatgccg aagtggagga aaaccacct
361 tacatacagg attgtgaatt atacaccaga tttgccaaga gatgctgttg attctgccat
421 tgagaaagct ctgaaagtct gggaagaggt gactccactc acattctcca ggctgtatga
481 aggagaggct gatataatga tctctttcgc agttaaaaga catggagact tttactcttt
541 tgatggccca ggacacagtt tggtcatgac ctaccacact ggacctgggc tttatggaga
601 tattcacttt gatgatgatg aaaaatggac agaagatgca tcaggcacca atttattcct
661 cgttgctgct catgaacttg gccactccct ggggctcttt cactcagcca acactgaagc
721 tttgatgtac ccactctaca actcattcac agagctcgcc cagttccgcc tttcgcaaga
781 tgatgtgaat ggcattcagt ctctctacgg acctccccct gcctctactg aggaaccctt
841 ggtgcccaaa aaatctgttc ctcgggagtc tgagatgcca gccaaagtgt atcctgcttt
901 gtccttcgat gccatcagca ctctgagggg agaatatctg tttcttaaa acagatatatt
961 ttggcgaaga tcccactgga accctgaacc tgaatttcac ttgatttctg cattttggcc
1021 ctctcttcca tcatatttgg atgctgcata tgaagttaac agcagggaca ccgtttttat
1081 ttttaaggga aatgagttct gggccatcag aggaaatgag gtacaagcag gttatccaag
1141 aggcattccat accctgggtt ttctccaac cataaggaaa attgatgcag ctgtttctga
1201 caaggaaaag aagaaaacat acttctttgc agcggacaaa tactggagat ttgatgaaaa
1261 tagccagtc atggagcaag gcttccttag actaatagct gatgactttc caggagttga
1321 gcctaagggt gatgctgtat tacaggcatt tggatttttc tacttcttca gtggatcatc
1381 acagtttgag tttagcccca atgccaggat ggtgacacac atattaaaga gtaacagctg
1441 gttacattgc taggcgagat agggggaaga cagatatggg tgtttttaat aaatctaata
1501 attattcatc taatgtatta tgagccaaaa tggttaattt ttctgcatg ttctgtgact
1561 gaagaagatg agccttgcat atatctgcat gtgtcatgaa gaatgtttct ggaattcttc
1621 acttgctttt gaattgcact gaacagaatt aagaaatact catgtgcaat aggtgagaga
1681 atgtattttc atagatgtgt tattacttcc tcaataaaaa gttttatttt gggcctgttc
1741 ctt

```

## (2) INFORMATION FOR SEQ ID NO:2743:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2743

```

1 ctgagggtgg taagagtaca atggctaaat cttaacacac tcttacgtgt acaccctacc
61 gtacaccatc cagactcgtc cccatacaat caggagtgat cagtacgtaa atgcttatgg
121 tgtgatttga aggggtgtta gtagatgata tctctcacac cgacagcaga ctgcttccaa
181 tctatccttt ggaattttat tccctgactg ttaaaagttt ttagtgctta aatattctct
241 attgaggtaa gagacagatt ctgtgcaatg ggacaattag gtcaagaggg aaagaagctg
301 aggtgatagg cagatagatt ccagaggcaa acttttccca tctgctaaag ttgaaaagag

```

```

361 taaccacacat cctaccaacg ctagacaatc taggatgtag ggaaagtttg tctctggaat
421 ctatccaggt acccagttgg gactgagctt cagcttagat gtctgaagat gtttaagttat
481 agaatcaggt ttaagtctga agatgttaag ttatagaatc aggatctgag ccggtacaac
541 acgtggataa acaatgaagt cgaatgttaca aatttttttt tgctacttgt aaaatctctg
601 tatcacattt ctctaggagg ctggattccg tttaggagca ctcatctact ccaggaaaaag
661 gatttttattt aatctttcaa cattttactt aaaaaactttt tttatctata atgaatataa
721 ggaagtatta taatgaaaac caagttatca ggctttaaga aaatatattt taagtctctc
781 ttctctttta gttgcttgat atttctttta caagggtcta tttttagat aggtggacgt
841 agaggcttat ttatcatttt gaaggtagat actctgaatt gcttgagtga tggactagat
901 gctaattgat ccattgtcgt ctgaataaag tcatgctttt gtttgcattg ttttagagat
961 agtcaaggga tgatatcaac tatgagtcac tcataggatt catattcaca gaaccggagc
1021 taagggtctat ataaagagga acagttcagg aacttaggct agaaaggaca cagtaaacgt
1081 aattgatccg tttagaagtt tacaatgaag tttcttctaa tactgtctct gcaggccact
1141 gcttctggag ctcttcccct gaacagctct acaagcctgg aaaaaataa tgtgctattg
1201 ggtgagaga

```

## (2) INFORMATION FOR SEQ ID NO:2744:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2744

```

1 cgccccggca ggtcctctgc ctagcactgc tcccccaagg ctcccagaaa tctcaggtca
61 gaggcacgga cagcctctgg agctctcgtc tggtagggacc atgaactgcc agcagctgtg
121 gctgggcttc ctactcccca tgacagtctc aggcggggtc ctggggcttg cagaggtggc
181 gcccgtaggac tacctgtcac aatatgggta cctacagaag cctctagaag gatctaataa
241 cttcaagcca gaagatatca ccgaggtctt gagagctttt caggaagcat ctgaacttcc
301 agtctcaggt cagctggatg atgccacaag ggcccgcatg aggcagcctc gttgtggcct
361 agaggatccc ttcaaccaga agacccttaa atacctgttg ctgggcccgt ggagaaagaa
421 gcacctgact ttccgcatct tgaacctgcc ctccaccctt ccaccccaca cagccccggc
481 agcctgcgt caagccttcc aggactggag caatgtggct cccttgacct tccaagaggt
541 gcaggtcgtt gcggtgaca tccgcctctc ctcccatggc cgcctaaagt cgtactgttc
601 caatactttt gatgggcttg ggagagtctt ggcccatgcc gacatcccag agctgggcag
661 tgtgacattc gacgaagacg agttctggac tgaggggacc taccgtgggg tgaacctgcg
721 catcattgca gcccattgaag tgggcatgac tctggggctt gggcactccc gatattccca
781 ggccctcatg gcccagctct acgagggcta ccggcccccac tttaagctgc acccagatga
841 tgtggcaggg atccaggtct tctatggcaa gaagagtcca gtgataaggg atgaggaaga
901 agaagagaca gagctgcccc ctgtgccccc agtgcccaca gaaccagtc ccatgccaga
961 cccttgcatg agtgaactgg atgccatgat gctggggccc cgtgggaaga cctatgcttt
1021 caagggggac tatgtgtgga ctgtatcaga ttcaggaccg ggcccttgtt tccgagtgtc
1081 tgcctctttg gaggggctcc ccggaaacct ggatgctgct gtctactcgc ctcgaaacac
1141 atggattcac ttctttaagg gagacaaggt gtggcgctac attaatctca agatgtctcc
1201 tggcttcccc aagaagctga ataggtcaga acctaacctg gatgcagctc tctattggcc
1261 tctcaaccaa aaggtgttcc tctttaaggg ctccgggtac tggcagtggg acgagctagc
1321 ccgaactgac ttcagcagct accccaaacc aatcaagggt ttgtttacgg gagtgcctaa
1381 ccagccctcg gctgctatga gttggcaaga tggccgagtc tacttcttca agggcaaaagt
1441 ctactggcgc ctcaaccagc agcttcgagt agagaaaggc tatcccagaa atatttccca
1501 caactggatg cactgtcgtc cccggactat agacactacc ccatcaggtg gaaataccac
1561 tccctcaggt acgggcataa ccttggatgc cactctctca gccacagaaa ccacgtttga
1621 atactgactg ctaccccaca gacacaatct tggacattaa ccctgaggg tccaccaccc
1681 accctttcat ttccccccca gaagcctaag gcctaatagc tgaatgaaat acctgtctgc
1741 tcagtagaac cttgcaggtg ctgtagcagg cgcaagaccg tagatctcag gcctctaaca
1801 cttccaactc cagccaccac tttctgtgac attttcactc ctgagaagtg ctccccctac
1861 tcagatcccc taacttagat ttggccccca actccatttc ctgtctgtct tagacagccc
1921 ttccaactgt gtcattctct ctctggaggt caatgggtgga gggagatgcc tgggtcctgt
1981 tcttcttaca taaaatgcaa gaaaacagca tggccagtaa actgagcaag ggccttggaa
2041 tccttgagaa tcacatttat gtgcttatga ttacgggcaa gctaattaac cttgttgaat
2101 ctcagattcc ccatttgcaa cattaggtta agaccagtac tgcaggattg ttgactaaa
2161 tgaataactg tatgtgaagt gcttggcaca gtgtctggta catttgtgtt taataaaagc
2221 taactccatg ttcataagaa aaaaaaaa
1 ggagaccggc cgcattggac cagggacagt ggccaccatg cgtagcccc gctgtccct
61 gcctgacgtg ctgggggttg cggggctggt caggcggtcgt cgccggtacg ctctgagcgg
121 cagcgtgttg aagaagcgaa ccctgacatg gaggttacgt tcttcccccc agagctccca
181 gctgagccag gagaccgtgc ggtcctcat gagctatgcc ctgatggcct ggggcatgga
241 gtcaggcctc acatttcatg aggtggattc cccccagggc caggagcccc acatcctcat
301 cgactttgce cgcgccttcc accaggacag ctaccccttc gacgggttg ggggcaccct
361 agccccatgc ttcttccctg gggagcacc catctccggg gacactcact ttgacgatga
421 ggagacctgg acttttgggt caaaagcctc tcagcagctg gacagggagc tggcagggcg

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481 ctcaccgggt gatgaggagc tgggcttcag ccggggctgg cgtgtgaatc ctctgggtcc  
541 tggcagtcct gagcgctga gctgaataca gagggagag gctgggagca aggccgggtg  
601 ctggggccgg caggctgtgt tctgaga  
1 atgatcttac tcacattcag cactggaaga cggttgatt tctgcatca ttcgggggtg  
61 tttttcttgc aaaccttgct ttggatttta tgtgctacag tctgcggaac ggagcagtat  
121 ttcaatgtgg aggtttggtt acaaaagtac ggctacctc caccgactga cccagaaatg  
181 tcagtgtctg gctctgcaga gaccatgcag tctgccctag ctgccatga gcagttctat  
241 ggcattaaca tgacaggaaa agtggacaga aacacaattg actggatgaa gaagccccga  
301 tgcggtgtac ctgaccagac aagaggtagc tccaaatttc atattcgtcg aaagcgatat  
361 gcattgacag gacagaaatg gcagcacaag cacatcactt acagtataaa gaacgtaact  
421 ccaaaagtag gagaccctga gactcgtaaa gctattcgcg gtgaccttga tgtgtggcag  
481 aatgtaactc ctctgacatt tgaagaagtt cctacagtg aattgaaaaa tggcaaacgt  
541 gatgtggata taaccattat ttttgcattt gggttccatg gggacagctc tccctttgat  
601 ggagagggag gatttttggc acatgcctac ttccctggac caggaattgg aggagatacc  
661 cattttgact cagatgagcc atggacacta ggaaatccta atcatgatgg aaatgactta  
721 tttctttagt cagtccatga actgggacat gctctgggat tggagcattc caatgacccc  
781 actgccatca tggctccatt ttaccagtac atggaaacag acaacttcaa actacctaata  
841 gatgatttac agggcatcca gaagatatat gggtccactg acaagattcc tccactaca  
901 agacctctac cgacagtgc cccacaccgc tctattcctc cggctgaccc aaggaaaaat  
961 gacaggccaa aacctcctcg gcctccaacc ggcagaccct cctatcccg agccaaaccc  
1021 aacatctgtg atgggaactt taacactcta gctattcttc gtcgtgagat gtttgttttc  
1081 aaggaccagt ggttttggcg agtgagaaac aacagggtga tggatggata cccaatgcaa  
1141 attacttact tctggcgggg cttgcctcct agtatcgatg cagtttatga aaatagcgac  
1201 gggaattttg tgttctttaa agtgaaggga gacactctat ctgtaatcca agatggttgg  
1261 ctctacaaat accattggaa atggattcta gaacaaaggc agtcagtgc tgtgcttca  
1321 agacaaactg aaaagcacia gacctatgaa gaattatctt ccatcacata ctaacaaaga  
1381 acaatcagga attgaaaatt taaaataaaa ggccatttac aattgcattc gaaaacacca  
1441 aataccgagg gatcaatctg caaaaaatgt gcatgacctc tacattgaaa acaacaaaac  
1501 actactaaat gtttgtcttt aaaggcagct gg  
1 tagaagttta caatgaagtt tcttctaata ctgctcctgc aggccactgc ttctggagct  
61 cttccctga acagctctac aagcctggaa aaaaataatg tgctatttgg tgagagatac  
121 ttagaaaaat tttatggcct tgagataaac aaacttcag tgacaaaaat gaaatatagt  
181 ggaaacttaa tgaaggaaaa aatccaagaa atgcagcact tcttgggtct gaaagtgacc  
241 gggcaactgg acacatctac cctggagatg atgcacgcac ctcgatgtgg agtccccgat  
301 ctccatcatt tcagggaaat gccagggggg ccggtatgga ggaaacatta tatcacctac  
361 agaatcaata attacacacc tgacatgaac cgtgaggatg ttgactacgc aatccgaaa  
421 gctttccaag tatggagtaa tgttaccctt ttgaaattca gcaagattaa cacaggcatg  
481 gctgacattt tgggtgtttt tgcccggtga gctcatggag acttccatgc ttttgatggc  
541 aaagggtgaa tcctagccca tgcttttggg cctggatctg gcattggagg ggatgcacat  
601 ttcgatgagg acgaattctg gactacacat tcaggaggca caaacttgtt cctcactgct  
661 gttcacgaga ttggccattc cttaggctct ggccattcta gtgatccaaa ggctgtaatg  
721 ttccccacct acaaatatgt cgacatcaac acatttcgcc tctctgctga tgacatacgt  
781 ggcattcagt ccctgtatgg agacccaaaa gagaaccaac gcttgccaaa tcttgacaat  
841 tcagaaccag ctctctgtga ccccaatttg agttttgatg ctgtcactac cgtgggaaat  
901 aagatctttt tcttcaaaga caggttcttc tggctgaagg tttctgagag accaaagacc  
961 agtggttaatt taatttcttc cttatggcca accttgccat ctggcattga agctgcttat  
1021 gaaattgaag ccagaaatca agtttttctt tttaaagatg acaaaactg gtttaattagc  
1081 aatttaagac cagagccaaa ttatcccaag agcatacatt cttttgggtt tcttaacttt  
1141 gtgaaaaaaa ttgatgcagc tgtttttaac ccacgtttt ataggacctt cttctttgta  
1201 gataaccagt attggaggta tgatgaaagg agacagatga tggaccctgg ttatcccaaa  
1261 ctgattacca agaacttcca agaatcggg cctaaaattg atgcagtctt ctattctaata  
1321 aacaaatact actatttctt ccaaggatct aaccaatttg aatatgactt cctactccaa  
1381 cgtatcacca aaactgaa aagcaatagc tgggttgggt gttagaaatg gtgtaattaa  
1441 tgggttttgt tagttcactt cagcttaata agtatttatt gcatatttgc tatgtcctca  
1501 gtgtaccact acttagagat atgtatcata aaaataaaat ctgtaaacca taggtaatga  
1561 ttatataaaa tacataatat ttttcaattt tgaaaactct aattgtccat tcttgcttga  
1621 ctctactatt aagtttgaaa atagttacat tcaaagcaag ataattctat ttgaagcatg  
1681 ctctgtaagt tgcttcttaa catccttggg ctgagaaatt atacttactt ctggcataac  
1741 taaaattaaag tatatatatt ttggctcaaa taaaattg  
1 aaagaaggta agggcagtg gaatgatgca tcttgcatc cttgtgctgt tgtgtctgcc  
61 agtctgctct gcctatctc tgagtggggc agcaaaagag gaggactcca acaaggatct  
121 tgcccagcaa tacctagaaa agtactacaa cctcgaaaag gatgtgaaac agtttagaag  
181 aaaggacagt aatctcattg ttaaaaaaat ccaaggatg cagaagttcc ttgggttggg  
241 ggtgacaggg aagctagaca ctgacactct ggaggtgatg cgcaagccca ggtgtggagt  
301 tctgacgtt ggtcacttca gctccttcc tggcatgccg aagtggagga aaaccacct  
361 tacatacagg attgtgaatt ataccacaga tttgccaaag gatgctgtg attctgcat  
421 tgagaaagct ctgaaagtct gggaagaggt gactccactc acattctcca ggctgtatga  
481 aggagaggct garataatga tctcttctgc agttaagaa catggagact tttactcttt

541 tgatggccca ggacacagtt tggctcatgc ctaccacact ggacctgggc tttatggaga  
 601 tattcacttt gatgatgatg aaaaatggac agaagatgca tcaggcacca atttattcct  
 661 cgttgctgct catgaacttg gccactccct ggggctcttt cactcagcca acactgaagc  
 721 tttgatgtac ccactctaca actcattcac agagctcgcc cagttccgcc tttcgcaaga  
 781 tgatgtgaat ggcattcagt ctctctacgg acctccccct gcctctactg aggaacccct  
 841 ggtgcccaca aaatctgttc cttcgggagc tgagatgcca gccaaagtgtg atcctgcttt  
 901 gtccttcgat gccatcagca ctctgagggg agaatatctg ttctttaag acagatattt  
 961 ttggcgaaga tcccactgga accctgaacc tgaatttcat ttgatttctg cattttggcc  
 1021 ctctcttcca tcatatttgg atgctgcata tgaagttaac agcagggaca ccgtttttat  
 1081 ttttaaagga aatgagttct gggccatcag aggaatagag gtacaagcag gttatccaag  
 1141 aggcattccat accctgggtt ttctccaac cataaggaaa attgatgcag ctgtttctga  
 1201 caaggaaaag aagaaaacat acttctttgc agcggacaaa tactggagat ttgatgaaa  
 1261 tagccagtcc atggagcaag gcttccctag actaatagct gatgactttc caggagttga  
 1321 gcctaagggtt gatgctgtat tacaggcatt tggatttttc tacttcttca gtggatcatc  
 1381 acagtttgag tttgacccca atgccaggat ggtgacacac atattaaaga gtaacagctg  
 1441 gttacattgc taggcgagat agggggaaga cagatatggg tgtttttaat aaatctaata  
 1501 attattcatc taatgtatta tgagccaaaa tggtaattt ttctgcatg ttctgtgact  
 1561 gaagaagatg agccttgcat atatctgcat gtgtcatgaa gaatgtttct ggaattcttc  
 1621 acttgctttt gaattgcact gaacagaatt aagaaatact catgtgcaat aggtgagaga  
 1681 atgtattttc atagatgtgt tattacttcc tcaataaaaa gttttatttt gggcctgttc  
 1741 ctt

1 ctgaggtggg taagagtaca atggctaaat cttaacacac tcttacgtgt acaccctacc  
 61 gtacaccatc cagactcgtc cccatacaat caggagtgat cagtacgtaa atgcttatgg  
 121 tgtgatttga aggggtgtta gagtagatca tctctcacac cgcagcagca ctgcttccaa  
 181 ttcactccttt ggaattttat tccctgactg ttaaaagtgt ttagtgctta aatattctct  
 241 attgaggtaa gagacagatt ctgtgcaatg ggacaattag gtcaagaggg aaagaagctg  
 301 aggtgatagg cagatagatt ccagaggcaa acttttccca tctgctaaag ttgaaaagag  
 361 taaccacat cctaccaacg ctagacaatc taggatgtag ggaagtttg tctctggaat  
 421 ctatccaggt acccagttgg gactgagctt cagcttagat gtctgaagat gtttaagttat  
 481 agaatacaggt ttaagtctga agatgttaag ttatagaatc aggatctgag ccggtacaac  
 541 acgtggataa acaatgaagt cgatgttaca aatttttttt tgctacttgt aaaatctctg  
 601 tatcacattt ctctagggag ctggattccg tttaggagca ctcatctact ccaggaaaag  
 661 gattttattt aatctttcaa catttacttt aaaaactttt tttatctata atgaatataa  
 721 ggaagtatta taatgaaaac caagttatca ggctttaaga aaatatattt taagttctcc  
 781 ttctctttta gttgcttgat atttctttta caagggctta tttttagat aggtggacgt  
 841 agaggcttat ttatcatttt gaaggtacat actctgaatt gcttgagtga tggactagat  
 901 gctaattgat ccattgtcgt ctgaataaag tcatgctttt gtttgcattg ttttagagat  
 961 agtcaaggga tgatatcaac tatgagtcac tcataggatt catattcaca gaacccggac  
 1021 taagggctat ataaagagga acagttcagg aacttaggct agaaaggaca cagtaaacctg  
 1081 aattgatccg tttagaagtt tacaatgaag tttcttctaa tactgtcctt gcaggccact  
 1141 gcttctggag ctcttccctt gaacagctct acaagcctgg aaaaaataa tgtgctattg  
 1201 ggtgagaga

## (2) INFORMATION FOR SEQ ID NO:2745:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2745

1 aaggacacgg gcagcagaca gtggctcagtc ttttcttggc tctgctgaca ctcgagccca  
 61 cattccgtca cctgctcaga atcatgcagg tctccactgc tgcccttgct gtccctcctt  
 121 gcacccatggc tctctgcaac cagttctctg catcacttgc tgctgacacg ccgaccgcct  
 181 gtgcttcag ctacacctcc cggcagattc cacagaattt catagctgac tactttgaga  
 241 cgagcagcca gtgctccaag cccggtgtca tcttcctaac caagcgaagc cggcaggtct  
 301 gtgctgaccc cagtgaggag tgggtccaga aatatgtcag cgacctagag ctgagtgcct  
 361 gaggggtcca gaagcttcga gcccagcga cctcgggtggg ccagtgggga ggagcaggag  
 421 cctgagcctt gggaacatg cgtgtgacct ccacagctac ctcttctatg gactggttgt  
 481 tgccaaacag ccacactgtg ggactcttct taacttaaat tttaatttat ttatactatt  
 541 tagtttttgt aatttatttt cgatttcaca gtgtgtttgt gattgtttgc tctgagagtt  
 601 cccctgtccc ctcccccttc cctcacaccg cgtctggtga caaccgagtg gctgtcatca  
 661 gcctgtgtag gcagtcagtg caccaaagcc accagactga caaatgtgta tccgatgctt  
 721 ttgttcaggg ctgtgatcgg cctggggaaa taataaagca cgctctttta aaaggt

## (2) INFORMATION FOR SEQ ID NO:2746:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single



(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2746

```
1 acagccttga cttatgtca tgggttcaac ttggacactg aaaacgcaat gaccttccaa
61 gagaacgcaa ggggcttcgg gcagagcgtg gtccagcttc agggatccag ggtggtggtt
121 ggagccccc aggagatagt ggctgccaac caaaggggca gcctctacca gtgcactac
181 agcacaggct catgcgagcc caccgcctg caggccccg tggaggccgt gaacatgtcc
241 ctgggcctgt ccttggcagc caccaccagc cccctcagc tgcctgctg tggctccacc
301 gtgcaccaga cttgcagtga gaacacgtat gtgaaagggc tctgcttctt gtttgatcc
361 aacctacggc agcagcccca gaagttccca gaggccctcc gaggtgtcc tcaagaggat
421 agtgacattg ccttcttgat tgatggctct ggtagcatca tcccacatga ctttcggcgg
481 atgaaggagt ttgtctcaac tgtatggag caattaaaaa agtccaaaac cttgttctct
541 ttgatgcagt actctgaaga attccggatt cactttacct tcaaagagtt ccagaacaac
601 cctaacccaa gatcactggt gaagccaata acgcagctgc ttgggaggac acacacggcc
661 acgggcatcc gcaaagtggg acgagagctg ttaacatca ccaacggagc ccgaaagaat
721 gcctttaaga tcctagtgtg catcacggat ggagaaaagt ttggcgatcc cttgggatat
781 gaggatgtca tccctgaggc agacagagag ggagtcattc gctacgtcat tggggtggga
841 gatgccttcc gcagtgaaga atcccgcga gagcttaata ccatcgatc caagccgctt
901 cgtgatcagc tgttcagggt gaataacttt gaggtctga agaccattca gaaccagctt
961 cgggagaaga tctttgcgat cgagggtact cagacaggaa gtagcagctc ctttgagcat
1021 gagatgtctc aggaaggctt cagcgtgcc atcacctcta atggccctt gctgagcact
1081 gtggggagct atgactgggc tgggtgagtc tttctatata catcaaagga gaaaagcacc
1141 ttcatacaac tgaccagagt ggattcagac atgaatgatg cttacttggg ttatgtctgc
1201 gccatcatct tacggaaccg ggtgcaaagc ctggttcttg gggcacctcg atatcagcac
1261 atcgccctgg tagcgatgtt caggcagaac actggcatgt gggagtccaa cgtaatgtc
1321 aaggggcacc agatcggcgc ctacttcggg gcctccctct gctccgtgga cgtggacagc
1381 aacggcagca ccgacctggt cctcatcggt gcccccatt actacgagca gaccgaggg
1441 ggccaggtgt ccgtgtgccc cttgcccagg gggcagaggg ctcggtggca gtgtgatgct
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1561 ggggacgtaa atggggacaa gctgacggac gtggccattg gggccccagg agaggaggac
1621 aaccgggtg ctgtttacct gtttcacgga acctcaggat ctggcatcag cccctcccat
1681 agtcagcgga tagcaggtc caagctctct cccaggctcc agtattttgg tcagtcactg
1741 agtgggggcc aggacctcac aatggatgga ctggtagacc tgactgtagg agccccggg
1801 cagtgctgc tgcacaggtc ccagccagta ctgagagtca aggcaatcat ggagtcaat
1861 cccagggaag tggcaaggaa tgtatttgag tgtaatgatc aggtggtgaa aggcaaggaa
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1981 ggacagatcc agagtgtgtg gacttatgac ctggtcttg actccggccg cccacattcc
2041 cgcgccgtct tcaatgagac aaagaacagc acacgcagac agacacaggt cttggggctg
2101 accagactt gtgagacctt gaaactacag ttgccgaatt gcatcgaggc cccagttagc
2161 cccattgtgc tgccctgaa cttctctctg gtgggaacgc cattgtctgc tttcgggaac
2221 ctccggccag tgcctggcga ggatgctcag agactcttca cagccttgtt tccctttgag
2281 aagaattgtg gcaatgacaa catctgccag gatgacctca gcatcacctt cagtttcagt
2341 agcctggact gcctcgtggt ggggtggccc cgggagttca acgtgacagt gactgtgaga
2401 aatgatggtg aggactccta caggacacag gtcaccttct tcttcccgtc tgacctgtcc
2461 taccggaagg tgtccacgct ccagaaccag cgctcacagc gatcctggcg cctggcctgt
2521 gactctgcct cctccaccga agtgtctggg gccttgaaga gcaccagctg cagcataaac
2581 caccatctt tcccggaaaa ctcagaggtc accttaata tcacgtttga tgtagactct
2641 aaggttccc ttggaaacaa actgctctc aaggccaatg tgaccagtga gaacaacatg
2701 cccagaacca acaaaaccga attccaactg gagctgccg tgaaatatgc tgtctacatg
2761 gtggtcacca gccatggggt ctcactaaa tatctcaact tcacggctc agagaatacc
2821 agtcgggtca tgcagcatca atatcagggtc agcaacctgg ggcagaggag cctccccatc
2881 agcctgggtg tcttgggtgc cgtccggctg aaccagactg tcatatggga ccgccccag
2941 gtcaccttct ccgagaacct ctcgagtacg tgccacacca aggagcgctt gccctctcac
3001 tccgacttct tggctgagct tcggaaggcc cccgtggtga actgctccat cgtgtctgc
3061 cagagaatcc agtgtgacat cccgttcttt ggcatccagg aagaattcaa tgctacctc
3121 aaaggcaacc tctcgtttga ctggtacatc aagacctcgc ataaccacct cctgatcgtg
3181 agcacagctg agatcttgtt taacgattcc gtgttcccc tgctgccggg acagggggcg
3241 tttgtgaggt ccagacgga gaccaaagtg gagccgttc aggtcccaa cccctgccc
3301 ctcatcgtgg gcagctctgt cgggggactg ctgctcctgg cctcatcac ccgctcgtg
3361 tacaagctcg gcttcttcaa ggggcaatac aaggacatga tgagtgaagg gggctccccg
3421 ggggccgaac ccagtagcgt gctccttccc gacagagctg cctctcgtg gccagcagga
3481 ctctgccag accacacgta gccccaggc tgcgtggcac gtcggacagc gaagtatccc
3541 cgacaggacg ggcttgggct tccatttctg tgtgtgcaag tgtgtatgtg cgtgtgtgcg
3601 agtgtgtgca agtgtctgtg tgcaagtgtg tgcacgtgtc ggtgtgctg catgtgact
3661 cgcacgcca tgtgtgagt tgtgcaagta tgtgagtgtg tccaagtgtg tgtgcgtgtg
3721 tccatgtgtg tgcaagtgtg tgcagtgtg cagtggtgtg catgtgtgtg ctcagggcg
3781 tgtggctcac gtgtgtgact cagatgtctc tggcgtgtg gtaggtagc gccagcgtag
3841 cctctccggc agaagggaac tgctgggct ccttctgtgc tgggtgaagc cgtgtgtgg
3901 ttttctccg ggagagggga cggtaatcc tgtgggtgaa gacagaggga aacacagcag
```

3961 cttctctcca ctgaaagaag tgggacttcc cgtcgccctgc agcctgcgccg ctgctggagc  
4021 ctgcgagcgt tggatggaga ctccatgaga agccgtgggt ggaaccagga gcctcctcca  
4081 caccagcgt gatgccaat aaagatgcc actgaggaat gatg

## (2) INFORMATION FOR SEQ ID NO:2747:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2747

1 agcaggaagc tgcgcccgcg gtcgcccgcg ccgctcagct tccccgggcg cgtccaggac  
61 ccgctgcgcc aggcgcgcgcg tccccggacc cggcgtgcgt ccctacgagg aaagggaccc  
121 cgccgctcga gccgcctccg ccagcccccac tgcgaggggt cccagagcca gccgcgcgcg  
181 ccctcgcccc cggcccccga gccttcccgc cctgcgcgcg atgaacgccc ccgagcggca  
241 gcccacaacc gacggcgggg acgcccaggg ccacgagcct gggggcagcc cccaagacga  
301 gcttgacttc tccatcctct tcgactatga gtatttgaat ccgaacgaag aagagccgaa  
361 tgcacataag gtcgccagcc caccctccgg acccgcatat cccgatgatg taatggacta  
421 tggcctcaag ccatacagcc cccttgctag tctctctggc gagccccccc gccgattcgg  
481 agagccggat agggtagggc cgcagaagtt tctgagcgcg gccaaagccag caggggcctc  
541 gggcctgagc cctcggatcg agatcactcc gtcccacgaa ctgatccagg cagtggggcc  
601 cctccgcatg agagacgcgg gcctcctggt ggagcagcct cccctggcgg ggggtggcgc  
661 cagcccaggg ttcacctgc cgtgcccgg cttcgagggc taccgcgagc cgctttgctt  
721 gagccccgct agcagcggt cctctgccag cttcatttct gacaccttct cccctacac  
781 ctgcgccctg gtctcgccca ataacggcgg gcccgacgac ctgtgtccgc agtttcaaaa  
841 catccctgct cattattccc ccagaacctc gccaaataatg tcacctcgaa ccagcctcgc  
901 cgaggacagc tgcctggggc gccactcgcc cgtgccccgt ccggcctccc gtcctcatc  
961 gcctggtgcc aagcggaggc attcgtgcgc cgaggccttg gttgccctgc cgcccggagc  
1021 ctacccccag cgctcccggg gccctcgcgc gcagccctca tctcacgtgg caccacagga  
1081 ccacggctcc cgggtgggt acccccctgt ggctggctct gccgtgatca tggatgcct  
1141 gaacagcctc gccacggact cgccttggtg gatccccccc aagatgtgga agaccagccc  
1201 tgacccctcg ccggtgtctg ccgccccatc caaggccggc ctgcctcgcc acatctaccc  
1261 ggccgtggag ttcctggggc cctgcgagca gggcgagagg agaaactcgg ctccagaatc  
1321 catctgctg gtccgcccc cttggcccaa gccgctggtg cctgccattc ccatctgcag  
1381 catcccagtg actgcacccc tccctccact tgagtggccg ctgtccagtc agtcaggctc  
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1501 aggcagccga ggggctgtca aagctccaa tggaggccac cctgtggttc agctccatgg  
1561 ctacatggaa aacaagcctc tgggacttca gatcttcatt gggacagctg atgagcggat  
1621 ccttaagccg cagccttct accaggtgca ccgaatcacg gggaaaactg tcaccaccac  
1681 cagctatgag aagatagtg gcaacaccaa agtccctggag atcccccttg agccccaaaa  
1741 caacatgagg gcaaccatcg actgtgcggg gatcttgaag cttagaaacg ccgacattga  
1801 gctgcggaaa ggcgagacgg acattggaag aaagaacacg cgggtgagac tggttttccg  
1861 agttcacatc ccagagtcca gtggcagaat cgtctcttta cagactgcat ctaaccccat  
1921 cgagtgtccc cagcgtatcg ctacagagct gcccatggtt gaaagacaag acacagacag  
1981 ctgcctggtc tatggcggcc agcaaatgat cctcacgggg cagaacttta catccgagtc  
2041 caaagtgtg tttactgaga agaccacaga tggacagcaa atttgggaga tggagccac  
2101 ggtggataag gacaagagcc agcccaacat gctttttgtt gagatccctg aatatcgga  
2161 caagcatatc cgacacctg taaaagtga cttctacgct atcaatggga agagaaaaacg  
2221 aagtcagcct cagcacttta cctaccaccc agtcccagcc atcaagacgg agcccacgga  
2281 tgaatatgac cccactctga tctgcagccc caccatgga ggccgtggga gccagcctta  
2341 ctacccccag caccgatgg tggccgagtc cccctcctgc ctggtggcca ccatggctcc  
2401 ctgccagcag ttccgcacgg ggctctcatc ccctgacgcc cgctaccagc aacagaaccc  
2461 agcggccgta ctctaccagc ggagcaagag cctgagcccc agcctgctgg gctatcagca  
2521 gccggccctc atggccgccc cgtgtccct tgccgagcct caccgctctg tgcgtgtgca  
2581 gcgcggctcc cagggccaga gctcagccct gctccacccc tctccgacca acccagggc  
2641 ctgcctgtg atccactact caccaccaa ccagcagctg cgctgcggaa gccaccagga  
2701 gttccagcac atcatgtact gcgagaattt cgcaccaggg accaccagac ctggcccgc  
2761 cccggtcagt caaggtcaga ggctgagccc gggttcctac cccacagtca ttcagcagca  
2821 gaatgccacg agccaaagag ccgcaaaaaa cggacccccg gtcagtgacc aaaaggaggt  
2881 attacctgcg ggggtgacca ttaaacagga gcagaacttg gaccagacct acttgatga  
2941 tgtaaatgaa attatcagga aggagtttct aggacctcct gccagaaatc agacgtaa

## (2) INFORMATION FOR SEQ ID NO:2748:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2748

1 gctgcagcac cctggggccac gccgatgact actgcaaact gtggcgccca cgacgagctc  
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121 cctgcagatc ttgagccaga tgattgtgca tccatttaca tctttaatgt agatccacct  
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241 gttttgtcac catcgtttca gtcctaaagt cacaaaaact atgaaggaaac ttgtgagatt  
301 cctgaatcta aatatagccc attaggtggg cccaaaccct ttgagtggcc aagtattcaa  
361 attacatcta tctctcctaa ctgtcatcaa gaattagatg cacatgaaga tgacctacag  
421 ataaatgacc cagaacggga atttttggaa aggccttcta gagatcatct ctatcttctt  
481 cttgagccat cctaccggga gtcttctctt agtcctagtc ctgccagcag catctcttct  
541 aggagttggg tctctgatgc atcttcttgt gaatcgcttt cacatattta tgatgatgtg  
601 gactcagagt tgaatgaagc tgcagccgga tttacccttg gatccctctt gacttctctt  
661 ggtggctctc cagggggctg ccctggagaa gaaacttggc atcaacagta tggacttggg  
721 cactcattat caccagga caatctctgc cactctccta gatccagtgt cactgatgag  
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841 aaacggaggc actccagtgc tgaagtttgt tatgtgggt ccctttcacc ccactactca  
901 cctgttctct cactgtgtca ctccccagg ggaagtgtga cagaagatac gtggctcaat  
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1021 gagactgaca tccctctcaa aacaaggaaa acttctgaag atcaagctgc catactacca  
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1261 cgcacatctt cattacctcc actagactgg cctttaccag ctcattttgg acaatgtgaa  
1321 ctgaaaatag aagtgcaccc taaaactcat catcgagccc attatgaaac tgaaggtagc  
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1561 ataataattg ccagtacaaa agttctggaa attccacttc ttctgaaaa taatatgtca  
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1681 ggagaaactg atattggcag aaagaatact agagtacgac ttgtgtttcg tgtacacatc  
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2281 caaacatatg catccatggg gacctcatcc catctgccac agttgagtg tagagatgag  
2341 agtgttagta aagaacagca tatgattcct tctccaattg tacaccagcc ttttcaagtc  
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2881 caatctccta gtcagggaac tggctcatca ccgtctccag ccaccagaat gcattctgga  
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3421 ggtttccaac tcttcaacct tcaggtcttg ggccaggagt gggaccacc attttgtggg  
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3541 aggtgtgttg agctttgggg aaatgaactt tgctttttat atttaactag gatactttta  
3601 aatgatgggt gctttgagtg tgaatccagc aggtctctct gtttccgagg tgctgtttt  
3661 gcaggtgacc tggttactta actaggagtg gtgatttgta ctgctttatg gtcatttgaa  
3721 ggccctttaa gtttttatga taatttttaa aataggaact tttgataaga ccttctagaa  
3781 gcaa

## (2) INFORMATION FOR SEQ ID NO:2749:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2749

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121 cctgcagatc ttgagccaga tgattgtgca tccatttaca tctttaatgt agatccacct
181 ccatctactt taaccacacc actttgctta ccacatcatg gattaccgct tcactcttct
241 gttttgtcac catcgtttca gctccaaagt cacaaaaact atgaaggaac ttgtgagatt
301 cctgaatcta aatatagccc attaggtggt cccaaaccct ttgagtggcc aagtattcaa
361 attacatcta tctctcctaa ctgtcatcaa gaattagatg cacatgaaga tgacctacag
421 ataaatgacc cagaacggga atttttggaa aggccttcta gagatcatct ctatcttctt
481 cttgagccat cctaccggga gtcttctctt agtcctagtc ctgccagcag catctcttct
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721 cactcattat caccagggca atctccttgc cactctccta gatccagtgt cactgatgag
781 aattggctga gccccaggcc agcctcagga ccctcatcaa ggcccacatc cccctgtggg
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(2) INFORMATION FOR SEQ ID NO:2750:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2750

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121 cctgcagatc ttgagccaga tgattgtgca tccatttaca tctttaatgt agatccacct
181 ccactacttt taaccacacc actttgttta ccacatcatg gattaccgtc tcactcttct
241 gttttgtcac catcgtttca gtcctaaagt cacaaaaact atgaaggaac ttgtgagatt
301 cctgaatcta aatatagccc attagtggtt cccaaaccct ttgagtgccc aagtattcaa
361 attacatcta tctctcctaa ctgtcatcaa gaattagatg cacatgaaga tgacctacag
421 ataaatgacc cagaacggga atttttggaaggcccttcta gagatcatct ctatcttctt
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(2) INFORMATION FOR SEQ ID NO:2751:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2751

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121 gaggtttaacc agcgcgacga gggcgccgcc gcggccgccc cagaacacta tggtatgca
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361 cctgatgggg cccctgccct ggagagtcct cgcacgaga taacctcgtg cttgggctg
421 taccacaaca ataaccagt tttccacgat gtggaggtg aagacgtcct ccttagctcc
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(2) INFORMATION FOR SEQ ID NO:2752:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2752

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1741 ccacagccca gtggaaaagt cctttctctg cagatagcct ctataccctg tgagtgtcc  
1801 cagcgggtctg ctcaagaact tcctcatatt gagaagtaca gtatcaacag ttgttctgta  
1861 aatggagggtc atgaaatggt tgtgactgga tctaattttc ttccagaatc caaaatcatt  
1921 tttcttgaaa aaggacaaga tggacgacct cagtgggagg tagaagggaa gataatcagg  
1981 gaaaaatgtc aaggggtctc cattgtcctt gaagtccctc catatcataa cccagcagtt  
2041 acagctgcag tgcaggtgca cttttatctt tgcaatggca agagggaaaa aagccagttc

2101 caacgtttta cttatacacc agttttgctg aagcaagaac acagagaaga gattgatttg  
2161 tcttcagttc catctttgccc tgtgcctcat cctgctcaga cccagaggcc ttcctctgat  
2221 tcagggtgtt cacatgacag tgtactgtca ggacagagaa gtttgatttg ctccatccca  
2281 caaacatatg catccatggt gacctcatcc catctgccac agttgcagtg tagagatgag  
2341 agtggttagta aagaacagca tatgattcct tctccaattg tacaccagcc ttttcaagtc  
2401 acaccaaacac ctccctgtggg gtcttccctat cagcctatgc aaactaatgt tgtgtacaat  
2461 ggaccaactt gtcttccctat taatgctgcc tctagtcaag aatttgattc agtttggttt  
2521 cagcaggatg caactctttc tgggttagtg aatcttggtc gtcaaccact gtcattccata  
2581 ccatttcatt cttcaaattc aggtcaaca ggacatctct tagcccatat acctattct  
2641 gtgcataccc tgcctcatct gcaatcaatg ggatattcatt gttcaaatatc aggacaaaga  
2701 tctctttctt ctccagtggg tgaccagatt acagggtcagc cttcgtctca gttacaacct  
2761 attacatatg gtcccttaca ttcagggtct gttacaacag cttcccccagc agcttctcat  
2821 cccttggtga gttcaccgct ttctgggcca ccatctctc agtttcagcc tatgccttac  
2881 caatctccta gctcaggaac tggctcatca ccgtctccag ccaccagaat gcattctgga  
2941 cagcactcaa ctcaagcaca aagtacgggc caggggggtc tttctgacc ttcattcctta  
3001 atatgtcaca gtttgtgtga tccagcgta tttccacctg atggggcaac tgtgagcatt  
3061 aaacctgaac cagaagatcg agagcctaac tttgcaacca ttggtctgca ggacatcact  
3121 ttagatgatg gtaagtctat ctctgatatg ttcttgaagt agtgaagatt cagggacttt  
3181 attctcccaa gtgtcatgaa aaagtctcta tggattgctt attggcatat ggttgggctt  
3241 ttaaataagt gtgtattaga aatatatgtt aatatataac tttgccaggt accacggctc  
3301 acgctgtat cccagcactt tggaaggctg aggggggtgg atcacaaggt caggagttca  
3361 agaccagcct ggccaacatg gtgtaacgct gtctctacta aaaatacaaa aaattagcca  
3421 ggcatgggtg tgtgtgacta taatccagc tactcgggag gctgagacag gagaatcact  
3481 tgaacccggg aggtggcagt tgacgggagc taagatcgcg ccattgact ccagcctggg  
3541 cggcagagca agactccgtc tcgggaaaaa aaaaaaaaaa aaa  
1 gaattccggg cggggagaac cgaacccctg gcggccgcga ccccggtcc cgcgccggcc  
61 cgggcccagc cgcctatgac ggggctggag gaccaggagt tgcacttca gttcctcttc  
121 gaggtttaacc agcgcgacga gggcgccgcc gcggccgccc cagaacacta tggctatgca  
181 tcttccaacg tcagccccgc cctgcccgtc cccacggcgc actccacctt gccggccccg  
241 tgccacaacc ttcagacctc cacaccgggc atcatcccgc cggcggatca cccctcgggg  
301 tacggagcag ctttggacgg tgggctcgcg ggctacttcc tctcctccg ccacaccagg  
361 cctgatgggg cccctgccct ggagagtcct cgcctcaga taacctcgt cttgggctg  
421 taccacaaca ataaccagt tttccacgat gtggaggtgg aagacgtct ccttagctcc  
481 aaacgggtccc cctccacggc cagcgtgagt ctgcccagcc tggaggccta cagagacccc  
541 tcgtgcctga gcccgccag cagcctgtcc tcccggagct gcaactcaga ggcctcctcc  
601 tacgagtcca actactcgt cccgtacggc tccccccaga cgtcgccatg gcagtctccc  
661 tgcgtgtctc ccaagaccac ggaccggag gagggtttc cccgcggtc gggggcctgc  
721 acactgctga gttccccgcg gactccccc tccacctgc cccgcgccag cgtcactgag  
781 gagagctggc tgggtgcccg ctctccaga cccgcgtccc cttgcaaaa gaggaagtac  
841 agcctcaacg gccggcagcc gccctactca cccaccact cgcacagcc atccccgcac  
901 ggctccccgc gggtcagcgt gaccgacgac tcgtggttg gcaacaccac ccagtacacc  
961 agctcggcca tcgtggccgc catcaacggc ctgaccacg acagcagcct ggacctggga  
1021 gatggcgctc ctgtcaagtc ccgcaagacc acctggagc agccgcccct agtggcgctc  
1081 aagggtggagc ccgtcgggga ggacctgggc agccccccgc ccccgccga cttcgcgccc  
1141 gaagactact cctctttcca gcacatcagg aaggcggtc tctgcgacca gtactggcg  
1201 gtgccgcagc acccctacca gtggcggaag cccaagcccc tgtccctac gtcctacatg  
1261 agccccagcc tgccccccct ggactggcag ctgcccgtccc actcaggccc gtatgagctt  
1321 cggattgagg tgacgcccac gtcccaccac cgagccact acgagacgga gggcagccgg  
1381 ggggcccgtga aggcgtcggc cggaggacac cccatcgtgc agctgcattg ctacttgag  
1441 aatgagccgc tgatgctgca gcttttctt gggacggcgg acgaccgct gctgcgccc  
1501 cagccttctt accaggtgca ccgcatcaca gggaagaccg tgtccaccac cagccagag  
1561 gccatcctct ccaacaccaa agtctggag atccactcc tgcggagaa cagcatgca  
1621 gccgtcattg actgtgccgg aatcctgaaa ctcaaaaact ccgacattga acttcggaaa  
1681 ggagagacgg acatcgggag gaagaacaca cgggtacggc tgggtgtccg cgttcacgtc  
1741 ccgcaaccca gggccgcac gctgtccctg caggtggcct ccaaccccat cgaatgctcc  
1801 cagcgtcag ctgagagct gcctctgtg gagaagcaga gcacggacag ctatccggtc  
1861 gtggcgggga agaagatggt cctgtctggc cacaacttc tcaggactc caaggtcatt  
1921 ttcgtggaga aagccccaga tggccaccat gtctgggaga tggaaagcaa aactgaccgg  
1981 gacctgtgca agccgaattc tctggtggtt gagatccgc cgtttcgaa tcagaggata  
2041 accagccccg ttcacgtcag tttctacgtc tgcaacggga agagaaagc aagccagtac  
2101 cagcgtttca cctaccttc cgcacacgtt ccaattataa aaacagaacc cactgatgat  
2161 tatgagcctg ctccaacctg tggaccgggt agccagggtt taagtctct cccaagacca  
2221 tactacagcc agcagctcgc gatgccacc gacccagct cctgcctcgt ggcggcttc  
2281 ccgccctgtc cgcagagaag caccctgatg ccagcgccc ctggcgtgag cccaagctc  
2341 cagcacttt ctcccgtgc ctacaccaag ggcgttgcca gcccgggcca ctgtcacctc  
2401 ggactccgc agccggccgg agaggcccc gccgtccagg acgtgcccag gccagtggcc  
2461 acgcaccccg gctcggccgg gcagccacc ccggccctgc tgccacagca gtaaatgaaa  
2521 taatacgaag tgacctctc agcacgagca cccactccta gttgccacat tggagcactc

2581 agttcagcag gggatgctg acctcagcag acaaagactt ttgaataaat aaactgaact  
 2641 cacacctggt accactcaga acctccaact gactgaatgc caggagctga acattaatat  
 2701 gtgcaaagat tggctctcca acaagaagga aagcagggag gaagggagac cactgtgtcg  
 2761 cctggaggag aagtcatttc atgacaacag aagggaggtg gccgggctga gcacggagac  
 2821 ccacgtgca ggggcctttc atgggaacgg ccacacgca gtttgacccc acgcccagcc  
 2881 cttctggcac ccctgggggt caatactgga agtgcttat ttaaccagac catca

## (2) INFORMATION FOR SEQ ID NO:2753:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2753

1 gaattcccaa ggcgccccg accgcctgct acgcgggggc cgcgcggcg ccctcgcagg  
 61 tcaagagcaa ggccaagaag accgtggaca agcacagcga cgagtacaag atccggcgcg  
 121 agcgcaacaa catcgccgtg cgcaagagcc gcgacaaggc caagatgcgc aacctggaga  
 181 cgcagcaciaa ggtcctggag ctacggccg agaacgagcg gctgcagaag aaggtggagc  
 241 agctgtcgcg cgagggaatt c

## (2) INFORMATION FOR SEQ ID NO:2754:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2754

1 gtccttcgcg tcccggcggc gcggcgagg ggcgcgctg acgcagcggg tgcacgggc  
 61 cgcccttata aataaccggg ctcaggagaa acttttagcga gtcagagccg cgcacgggac  
 121 tgggaagggg acccaccgga ggtccagcc accagcccc tctaataatag cggccacccc  
 181 ggcagcggcg gcagcagcag cagcagcga gcggcgacag ctacagagcag ggaggccgcg  
 241 cacttcgagg ccggccggag cggcgagccc caggccccct ccccgggcac ccgcgttcac  
 301 gcaacgcctg gtggcctggg acccagcatg tctccccctg ccgccgcgcg cgcctgcctt  
 361 taaatccatg gaagtggcca acttctacta cgaggcggac tgcttggctg ctgcgtacgg  
 421 cggcaaggcg gccccgcgg cgccccccgc ggccagaccc gggccgcgccc ccccgccggy  
 481 cgagctggcg agcatcgcg accacgagcg cgccatcgac ttacagcccgt acctggagcc  
 541 gctgggcgcg ccgcaggccc cggcgccgcg cacggccacg gacaccttc aggcggctcc  
 601 gcccgcgccc gccccgcgc ccgcctctc cgggcagcac cagcacttc tctccgacct  
 661 cttctccgac gactacgggg gcaagaactg caagaagccg gccgagtacg gctacgtgag  
 721 cctggggcgcg ctgggggctg ccaaggcgcg gctgcacccc ggctgcttcg cgccccgca  
 781 cccaccgccc ccgcccgcgc cgcccgcgc cgagctcaag gcggagccgg gcttcgagcc  
 841 cgcggactgc aagcggagg aggagggcgg ggcgcggggc ggcggcgag gcatggcgcg  
 901 gggcttcccg tacgcgctgc gcgttacct cggctaccag gcggtgccga gcggcagcag  
 961 cgggagctc tccacgtct cctcgtccag cccgcccggc acgcccagcc ccgctgacgc  
 1021 caaggccccc ccgaccgct gctacgcggg ggcggggcg gcgccttcg aggtcaagag  
 1081 caaggccaag aagaccgtg acaagcacag cgacgagtac aagatccggc gcgagcgcaa  
 1141 caacatcgcc gtgcgaaga gccgcgacaa ggccaagatg cgcaacctg agacgcagca  
 1201 caaggtcctg gagctcacg ccgagaacga gcggctgcag aagaaggtg agcagctgtc  
 1261 gcgcgagctc agcaccctgc ggaacttggt caagcagctg cccgagcccc tgctcgctc  
 1321 ctccggccac tgctagcgcg gccccgcgg cgtccccctg gggcgggcg gggctgagac  
 1381 tccggggagc gcccgcgccc gcgcctcgc cccncccc nnnnccgcaa aactttggca  
 1441 ctggggcact tggcagcng ggagcccgtc ggtaatttta atattttatt atatatatat  
 1501 atctatatatt tgccaaccaa ccgtacatgc agatggctcc cgcccggtgt gtataaagaa  
 1561 gaaatgtcta tgtgtacaga tgaatgataa actctctgct ctccctctgc cctctccag  
 1621 gcccgggcgg cggggcccgt ttcgaagttg atgcaatcg ttaaacaatg gctgaacgcg  
 1681 tgtgtacacg ggactgacgc aaccacagtg taactgtcag ccgggcccgt agtaatcgct  
 1741 taaagatggt ctagggttg ttgctgttga tgttttgttt tttttgttt tttggtcttt  
 1801 ttttgtatta taaaaataa tctatttcta tgagaaaaga ggcgtctgta tattttggga  
 1861 atcttttccg tttcaagcaa ttaagaacac ttttaataaa cttttttttg

## (2) INFORMATION FOR SEQ ID NO:2755:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2755

1 gaattcccaa ggcgccccg accgcctgct acgcgggggc cgcgcggcg ccctcgcagg  
 61 tcaagagcaa ggccaagaag accgtggaca agcacagcga cgagtacaag atccggcgcg  
 121 agcgcaacaa catcgccgtg cgcaagagcc gcgacaaggc caagatgcgc aacctggaga

181 cgagcacaa ggtcctggag ctacggccg agaacgagcg gctgcagaag aaggtggagc  
241 agctgtcgcg cgaggaatt c  
1 gtccttcgcg tcccggcgcc gcgcgaggag ggccggcggtg acgcagcggg tgctacgggc  
61 gcgccttata aataaccggg ctacaggagaa acttttagcga gtcagagccg cgcacgggac  
121 tgggaagggg acccaccga ggttccagcc accagcccc tctaataag cggccacccc  
181 ggcagcgggc gcagcagcag cagcgagcga gggcgacag ctacagcagc ggagggcgcg  
241 cacctgcggg ccggccggag cggcgagccc caggccccct ccccgggcac ccgcgttcac  
301 gcaacgcctg gtggcctggg acccagcatg tctccccctg ccgcgcgcgc cgcctgcctt  
361 taaatccatg gaagtggcca acttctacta cgaggcgagc tgcttggtg ctgcgtacgg  
421 cggcaaggcg gcccccgcg cgcgcgcgc ggccagaccc gggccgcgcg cccccgcgg  
481 cgagctgggc agcatcgcg accacgagcg cgccatcgac ttacagcccg acctggagcc  
541 gctgggcgcg ccgcagggcc cggcgccgcg cagggccacg gacaccttcg aggcggctcc  
601 gcccgcgccc gcccccgcg ccgcctctc cggcgagcac cacgacttcc tctccgacct  
661 cttctccgac gactacgggg gcaagaactg caagaagccg gccgagtac gctacgtgag  
721 cctggggcg cgtggggctg ccaagggcg cgtgcacccc ggctgcttcg cgcctcgca  
781 cccaccgccc ccgcgcgcgc cgcgcgcgc cgagctcaag gcggagccg gcttcgagcc  
841 cgcggactgc aagcgaagg agggggcg ggcgcgggc ggccgagc gcatggcggc  
901 gggcttcccg tacgcgtgc gcgcttacct cggctaccag gcggtgccg cggcgagcag  
961 cgggagcctc tccacgtcct cctcgctccg cccgcccggc acgcgcgac ccgctgacgc  
1021 caagggcccc ccgaccgct gctacgcggg ggccgggccc gcgcctcgc aggtcaagag  
1081 caagggcaag aagaccgtg acaagcacag cgacgagtag aagatccggc gcgagcgcaa  
1141 caacatcgcc gtgcgcaaga gccgcgacaa ggccaagatg cgcaacctg agacgcagca  
1201 caaggtcctg gagctcacg ccgagaacga gcggtcgagc aagaaggtg agcagctgac  
1261 gcgcgagtc agcaccctgc ggaacttgtt caagcagctg cccgagccc tgctcgctc  
1321 ctccggccac tgctagcgc gcccgcgcg cgtccccctg gggcgcgcg gggctgagac  
1381 tccggggagc gcccgcgccc gcgcctcgc ccccncccc nnnccgcaa aactttggca  
1441 ctggggcact tggcagcngg ggagcccgtc ggtaatttta atattttatt atatatatat  
1501 atctatatat tgccaaccaa ccgtacatg agatggctcc cgcctggtg gtataaagaa  
1561 gaaatgtcta tgtgtacaga tgaatgataa actctctgct ctccctctgc ccctctccag  
1621 gcccggcggg cggggccggt ttcgaagttg atgcaatcgg ttaaacatg gctgaacgcg  
1681 tgggtacacg ggactgacgc aaccacgtg taactgtcag ccgggcctg agtaatcgct  
1741 taaagatggt ctagggttgg ttgctgttga tgttttgtt tgttttgtt tttggtctt  
1801 ttttgtatta taaaaataa tctatttcta tgagaaaaga ggcgtctgta tattttggga  
1861 atcttttccg tttcaagcaa ttaagaacac ttttaataaa cttttttttg

## (2) INFORMATION FOR SEQ ID NO:2756:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2756

1 gaccagagca atttctgctt ttcacaggcg gggtttctca acggtgactt gtgggcagtg  
61 ccttctgctg agcagatcat ggcccgaagg cagaactaac tgtgctgca gtcttcactc  
121 tcaggatgca gccgaggtg gcccgaagg ccacgatgtg gcttgagtc ctgctgaccc  
181 ttctgctctg ttcaagcctt gagggtaag aaaactctt cacaatcaac agtgttgaca  
241 tgaagagcct gccgacttg acggtgcaaa atgggaagaa cctgacctg cagtgtctg  
301 cggatgtcag caccacctc cagtcgaagc ctacgacca gatgctgtt tataaggatg  
361 acgtgctgtt ttacaacatc tcctccatga agagcacaga gagttattt attcctgaag  
421 tccgatcta tgactcagg acatataaat gtactgtgat tgtgaacaac aaagagaaaa  
481 ccaactgcaga gtaccagggt ttggtggaag gaggccag tcccagggtg aactggaca  
541 agaaagaggc catccaaggt gggatcgtga gggtaactg ttctgtccca gaggaagag  
601 cccaataca cttcacaatt gaaaaactg aactaaatga aaaaatggtc aagtgaaaa  
661 gagagaagaa ttctcgagac cagaattttg tgatactgga attccccgtt gaggaacagg  
721 accgctttt atccttccga tgtcaagcta ggatcatttc tgggatccat atgcagacct  
781 cagaatctac caagagtga ctggtcacgc tgacggaatc cttctctaca ccaagttcc  
841 acatcagccc caccggaatg atcatggaag gagctcagc ccacattaag tgcaccattc  
901 aagtgactca cctggcccag gattttccag aaatcataat tcagaaggac aaggcgattg  
961 tggcccacaa cagacatggc aacaaggctg tgtactcagt catggccatg gtggagcaca  
1021 gtggcaacta cagtgcaaaa gtggagtcca gccgatatc caaggtcagc agcatcgtg  
1081 tcaacataac agaactattt tccaagcccg aactggaatc tctcttaca catctggacc  
1141 aaggtgaaag actgaacctg tcctgtcca tcccaggagc acctccagcc aacttcacca  
1201 tccagaagga agatacgatt gtgtcacaga ctcaagattt caccaagata gcctcaaggt  
1261 cggacagtgg gacgtatatc tgactgcag gtattgacaa agtggtaag aaaagcaaca  
1321 cagtccagat agtcgtatgt gaaatgctc cccagcccag gatttcttat gatgccagc  
1381 ttgaggtcat aaaaggacag accatcgaag tccgttgcca atcgatcagt ggaactttgc  
1441 ctatttctta ccaactttta aaaacaagta aagttttgga gaatagtacc aagaactcaa  
1501 atgactcctg ggtattcaaa gacaaccca ctgaagacg cgaataccag tgtgttgacg  
1561 ataattgcca ttcccacgccc aaaatgttaa gtgaggttct gaggtgaaag gtgatagccc

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1621 cgggtggatga ggtccagatt tctatcctgt caagtaaggt ggtggagtct ggagaggaca
1681 ttgtgctgca atgtgctgtg aatgaaggat ctggtcccat cacctataag ttttacagag
1741 aaaaagaggg caaacccctt tatcaaatga cctcaaatgc caccagggca ttttgacca
1801 agcagaaggc taacaaggaa caggaggagg agtattactg cacagccttc aacagagcca
1861 accacgcctc cagtgtcccc agaagcaaaa tactgacagt cagagtcaatt cttgcccat
1921 ggaagaaagg acttattgca gtggttatca tcggagtgat cattgtcttc ttgatcattg
1981 cggccaaatg ttattttctg aggaaagcca aggccaagca gatgccagtg gaaatgtcca
2041 ggccagcagt accacttctg aactccaaca acgagaaaat gtcagatccc aatatggaag
2101 ctacacagtca ttacggtcac aatgacgatg tcggaaacca tgcaatgaaa ccaataaatg
2161 ataataaaga gcctctgaac tcagacgtgc agtacacgga agttcaagtg tcctcagctg
2221 agtctcacaa agatctagga aagaaggaca cagagacagt gtacagtga gtccggaaag
2281 ctgtccctga tgccgtgga agcagatact ctagaacgga aggtccctt gatggaactt
2341 agacagcaag gccagatgca catccctgga aggacatcca tggtccgaga agaacagatg
2401 atccctgtat ttcaagacct ctgtcc

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## (2) INFORMATION FOR SEQ ID NO:2757:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2757

```

1 gaattccggg agaagtgacc agagcaattt ctgcttttca cagggcgggt ttctcaacgg
61 tgacttggtg gcagtgcctt ctgctgagcg agtcatggcc cgaaggcaga actaactgtg
121 cctgcagtct tcaactctcag gatgcagccg aggtgggccc aaggggccac gatgtggtt
181 ggagtcctgc tgacccttct gctctgttca agccttgagg gtcaagaaaa ctctttcaca
241 atcaacagtg ttgacatgaa gagcctgccg gactggacgg tgcaaaatgg gaagaacctg
301 accctgcagt gcttcgcgga tgtcagcacc acctctcacg tcaagcctca gcaccagatg
361 ctgtttctata aggatgacgt gctgttttac aacatctcct ccatgaagag cacagagagt
421 tatttttatt ctgaagtccg gatctatgac tcaggacat ataatgtac tgtgattgtg
481 aacaacaaag agaaaaccac tgcagagtac cagctgttgg tggaggaggt gccagtcctc
541 aggtgacac tggacaagaa agaggccatc caaggtggga tcgtgagggt caactgttct
601 gtcccagagg aaaaggcccc aatacacttc acaattgaaa aacttgaaact aaatgaaaaa
661 atggtcaagc tgaagagaga gaagaattct cgagaccaga attttgtgat actggaattc
721 ccggttgagg aacaggaccg cgttttatcc ttccgatgtc aagctaggat cattctctgg
781 atccatagc agacctcaga atctaccaag agtgaactgg tcaccgtgac ggaatccttc
841 tctacacca agttccacat cagccccacc ggaatgatca tggaggagc tcagctccac
901 attaagtgca ccattcaagt gactcacctg gccaggagt ttccagaaat cataattcag
961 aaggacaagg cgattgtggc ccacaacaga catggcaaca aggtctgtga ctacgtcatg
1021 gccatggtgg agcacagtgg caactacacg tgcaaaagtgg agtccagccg catatccaag
1081 gtcagcagca tcgtggtcaa cataacagaa ctattttcca agcccgaact ggaatcttcc
1141 ttacacatc tggaccaagg tgaaagactg aacctgtcct gctccatccc aggagacct
1201 ccagccaact tcacatcca gaaggagat acgattgtgt cacagactca agatttcacc
1261 aagatagcct caaagtcgga cagtgggacg tatatctgca ctgcaggtat tgacaaagtg
1321 gtcaagaaaa gcaacacagt ccagatagtc gtatgtgaaa tgctctccc gcccaggatt
1381 tcttatgatg ccagtttga ggtcataaaa ggacagacca tcgaagtccg ttgcgaatcg
1441 atcagtggaa ctttgcctat ttcttaccaa cttttaaaaa caagtaaaagt tttggagaat
1501 agtaccaga actcaaatga tctgcggta ttcaaagaca accccactga agacgtcgaa
1561 taccagtgtg ttgcagataa ttgccattcc catgccaaaa tgttaagtga ggttctgagg
1621 gtgaagggtg tagccccggg ggtgaggtc cagatttcta tctgtcaag taaggtggtg
1681 gagtctggag aggacattgt gctgcaatgt gctgtgaatg aaggatctgg tcccatcacc
1741 tataagtttt acagagaaaa agaggcaaaa cccttctatc aaatgacctc aaatgccacc
1801 caggcatttt ggaccaagca gaaggctagc aaggaacagc agggagagta ttactgcaca
1861 gccttcaaca gagccaacca cgctccagc gtccccagaa gcaaaatact gacagtcaga
1921 gtcattcttg ccccatggaa gaaaggactt attgcagtgg ttatcatcgg agtgatcatt
1981 gtctcttga tcattgcggc caaatgttat tttctgagga aagccaaagg caagcagatg
2041 ccagtggaaa tgtccaggcc agcagtacca cttctgaact ccaacaacga gaaaatgtca
2101 gatcccaata tggagctaa cagtcatcac ggtcacaaat acgatgtcag aaacctatga
2161 atgaaaccaa taaatgataa taaagagcct ctgaactcag acgtgcagta cacggaagtt
2221 caagtgtcct cagctgagtc tcacaagatg ctaggaaaga aggacacaga gacagtgtac
2281 agtgaagtcc ggaagctgt ccctgatgcc gtggaaagca gatactctag aacggaaggg
2341 tcccttgatg gaacttagac agcaaggcca gatgcacatc cctggaagga catccatgtt
2401 ccgagaagaa cagataatcc ctgtatttca agacctctgt gcacttattt atgaacctgc
2461 cctgctccca cagaacacag caattcctca ggctaagctg ccggttctta aatccatcct
2521 gctaagttaa tgttgggtag aaagagatac agagggg

```

## (2) INFORMATION FOR SEQ ID NO:2758:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2758

```
1 cccgggttca agcgattctc ctgcctcagc ctcttgggta gctgggatta taggcgtgtg
61 ccaccgtgcc tggctaattt ttgtattttt attggagaca gggtttcacc atgttggcca
121 ggctgggtctg aaactcctga cctcaggcaa tctcctacc tcagcctctc aaagtgtctg
181 gattaccggc atgagccacg actcccggcc ccaaaggcca atcttaaagc tacaaggat
241 cttttaaaag gagtaggaat aacgtatttt gaggcctaaa ggagtaggaa tagtgtattt
301 ttagatttga agccatcttc taaagggtag gatatttggg taacatgtca ctccctatcg
361 ccatggaaga agttaattct attctttttt tttttttttt gagatggagt ctactctgt
421 tgcccaggct ggagtacaat ggtgtgatct cagctcactg caacctctgc ctccctgggt
481 caagcaattc tctgcctca gcctcctgag tagcagggat tacaggggtt ctccaccatg
541 cctgtctaat ttttgtattt ttttttttag tagaggtgga gtttcaccat gttggtcagg
601 ctggtctcaa acccctaacc tcatgatccg cccgccttgg cctcccaaag tgctgggatt
661 acaggcgtga gccaccatgc ccagccgtta attctattct tactgtctac tcccttattt
721 tgtatgttct tcttctatct tacatctttt gcttttgcta ttgcttaagc tagcctacgc
781 caagggtgct ctttgccccc tacttctctt gctattctcg cctcagttcc gctgcattcc
841 aagctcagcc tgcccagca gcaggtctct ttgacaaacc tgcaattttg gggaaaagtc
901 agccccaaga aaggcagggg gccagactt atgctgtgtg gcaaaagccc tctttgatgg
961 gggaagggga ggactgaaa agcagagaga tctttctgga tgcctggga gagcagccct
1021 ttgggtgggt ggtggaggct ggaggcaggg aggaatcccc tcacagtgc atgagaaggg
1081 cccccaacc caggcgagac agaggaggg tcaagaacgc caaggcaaat gtcacttgtg
1141 ccttgtttt tccctaaga aactaaacaa agcggccgcg ttcgggtggc cctcaggaa
1201 gccggtcatt tcttgaggag atatcaggcc agcccaggcc ccattgttcc cggtttccag
1261 ccatggctgc cattacctga ccagcgccac agccggtctc tctgcaggcg ccgggagaag
1321 tgaccagagc aatttctgct tttcacaggc cgggtttctc aacggtgact tgtgggcagt
1381 gccttctgct gagcagagca tggcccgaag gcagaactaa ctgtgcctgc agtcttact
1441 ctccagatgc agccaggtg ggcccaaggg gccacgatgt ggcttggagt cctgctgacc
1501 cttctgctct gtgagtgtt actctgtttc cacatcactt taactccatg agcatcgaa
```

## (2) INFORMATION FOR SEQ ID NO:2759:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2759

```
1 gaattccggg agaagtgacc agagcaattt ctgcttttca caggcggggt ttctcaacgg
61 tgacttgtgg gcagtgcctt ctgctgagcg agtcatggcc cgaaggcaga actaactgtg
121 cctgcagtct tactctcag gatgcagccg aggtggggcc aaggggccac gatgtggctt
181 ggagtcctgc tgaccttct gctctgttca agccttgagg gtcaagaaaa ctctttcaca
241 atcaacagtg ttgacatgaa gagcctgccc gactggacgg tgcaaaatgg gaagaacctg
301 accctgcagt gcttcgcgga tgtcagcacc acctctcagc tcaagcctca gcaccagatg
361 ctgttctata aggatgacgt gctgttttac aacatctcct ccatgaagag cacagagagt
421 tattttattc ctgaagtccc gatctatgac tcagggacat ataatgtac tgtgattgtg
481 aacaacaaag agaaaaccac tgcagagtac cagctgttgg tgggaaggat gccagtgccc
541 aggggtgacac tggacaagaa agaggccatc caagggtgga tctgtagggt caactgttct
601 gtcccagagg aaaaggcccc aatacacttc acaattgaaa aacttgaact aaatgaaaaa
661 atggtcaagc tgaagagaga gaagaattct cgagaccaga attttgtgat actggaattc
721 cccgttgagg aacaggaccg cgttttatcc ttccgatgtc aagctaggat catttctggg
781 atccatatgc agacctcaga atctaccaag agtgaactgg tcaccgtgac ggaatccttc
841 tctacacca agttccacat cagccccacc ggaatgatca tgggaaggag tcagctccac
901 attaatgca ccattcaagt gactcacctg gccaggagt ttccagaaat cataattcag
961 aaggacaagg cgattgtggc ccacaacaga catggcaaca aggtctgtga ctacgtcatg
1021 gccatgggtg agcacagtgg caactacacg tgcaagtggt agtccagccg catatccaag
1081 gtcagcagca tcgtgggtcaa cataacagaa ctattttcca agcccgaact ggaatcttcc
1141 ttcacacatc tggaccaagg tgaagactg aacctgtcct gctccatccc aggagcact
1201 ccagccaact tcaccatcca gaaggaagat acgattgtgt cacagactca agatttcacc
1261 aagatagcct caaagtcgga cagtgggacg tatatctgca ctgcaggtat tgacaaagt
1321 gtcaagaaaa gcaacacagt ccagatagtc gtatgtgaaa tgctctccca gccaggtatt
1381 tcttatgatg cccagtttga ggtcataaaa ggacagacca tcgaagtccc ttgcgaatcg
1441 atcagtgga ctttgcctat ttcttaccaa cttttaaaaa caagtaaaagt tttggagaat
1501 agtaccaga actcaaatga tcctgcggta ttcaaagaca accccactga agacgtcgaa
1561 taccagtgtg ttgcagataa ttgccattcc catgcaaaaa tgttaagtga ggttctgagg
1621 tgaaggtga tagccccggt ggtgaggtc cagatttcta tctgtcaag taaggtggtg
1681 gactctggag aggacattgt gctgtgaatg aaggatctgg tcccatcacc
1741 tataagtttt acagagaaaa agagggcaaa ccttctatc aaatgacctc aaatgccacc
1801 caggcatttt ggaccaagca gaaggctagc aaggaacagg agggagagta ttactgcaca
```



1861 gccttcaaca gagccaacca cgcctccagt gtccccagaa gcaaaatact gacagtcaga  
1921 gtcattcttg ccccatggaa gaaaggactt attgcagtgg ttatcatcgg agtgatcatt  
1981 gctctcttga tcattgcggc caaatgttat tttctgagga aagccaaggc caagcagatg  
2041 ccagtggaata tgtccaggcc agcagtacca cttctgaact ccaacaacga gaaaatgtca  
2101 gatcccaata tggaagctaa cagtcatcac ggtcacaatg acgatgtcag aaacctatgca  
2161 atgaaaccaa taaatgataa taaagagcct ctgaactcag acgtgcagta cacggaagtt  
2221 caagtgtcct cagctgagtc tcacaagat ctaggaaaga aggacacaga gacagtgtac  
2281 agtgaagtcc ggaaagctgt ccctgatgcc gtggaaagca gatactctag aacggaaggc  
2341 tcccttgatg gaacttagac agcaaggcca gatgcacatc cctggaagga catccatggt  
2401 ccgagaagaa cagataatcc ctgtatttca agacctctgt gcacttattt atgaacctgc  
2461 cctgctccca cagaacacag caattcctca ggctaagctg ccggttctta aatccatcct  
2521 gctaagttaa tgttggttag aaagagatac agagggg

## (2) INFORMATION FOR SEQ ID NO:2760:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2760

1 tcttttggtt ttgctattgc ttaagctagc ctacgccaag ggtgctcttt gccccctact  
61 tcctctgcta ttctcgcttc agttccgctg cattccaagc tcagcctgcc ccagcagcag  
121 gtctctttga caaacctgca attttgggga aaagtcagcc caagaaaggc agggggccca  
181 gacttatgct gtgtggcaaa agccctcttt gatggggcaa gggtaggact ggaaaagcag  
241 agagatcttt ctggatgtcc tgggagagca gccctttggg tgggtgggtg aggctggagg  
301 cagggaggaa tcccctcaca gtgagaagg gccccaaacc caggcgagac agagggaggg  
361 tcaagaacgc caaggcaaat gtcacttgtg ccttggtttt tccctaaaga aactaaacaa  
421 agcggccgcy ttgggtggcc cctcaggaag gccggtcatt tcctgaggag atatcaggcc  
481 agcccaggcc ccattgttcc cgggttccag ccattggtgc cattacctga ccagcgccac  
541 agccggtctc tctgcaggcg ccgggagaag tgaccagagc aatttctgct ttccacaggg  
601 cgggtttctc aacgggtgact tgtgggcagt gccttctgct gagcgagtca tggcccgaag  
661 gcagaactaa ctgtgcctgc agtcttcact ctcaggatgc agccgagggt ggccaaaggg  
721 gccacgatgt ggcttggagt cctgctgacc cttctgctct gtgagtgttt actctgtttc  
781 cacatcactt taactccatg agcatcgaag cttctggaat caacatgttt cttatgtttc  
841 ttgcagggtc aagccttgag ggtcaagaaa actgtaagtc tgatgtttcc actgtaacag  
901 atgtttctac ctggtctcct ccttctctct ctgtgatgcc taaaacgcac attaaattgc  
961 tgggggttga tacttctaac aattaaggaa aagaatccaa ttgagaacta aagtttatcc  
1021 catgtgggca tttttagaaa ggcttagatc taagccaagt tctggtcagt gtgttttaga  
1081 agtagcacac gtttccttgg ctggtctgaa agtagtgggt tatcttgatg aattgtttag  
1141 tcagttacag atcaaaactcc atgttctttt ctctgttctc acgactactc ttgactagtc  
1201 taaaaatata ttagggtgtt gaaaagtaat tgtggttttt gccattactt tttaaaagat  
1261 ggcaaaaaaac acaattataa gtagcacaca ttttcttttt ttttctctt tttttttgag  
1321 acagagtctc tgttaccacg gctggagtgc agtgggtgca tccggctctc tgcaaaactcc  
1381 gcctccaggg ttcaagggat tctcctgtct cagcctcctg ggtcgctgga attagagg

## (2) INFORMATION FOR SEQ ID NO:2761:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2761

1 ttggcaggct ggtctcaaac tctgacctc aggtgatccg ctggcctcca cctcccaaa  
61 tgctgggatt acaggtgtga gccaccacgc ccggcctcac attttctaga ttccagtga  
121 ttgctgtttt ttgggatggg gaagtgtttt ttttatttta atgagcaatt ccataattag  
181 ttttttggtt ttttaccata atggcttatt tgaatattgt aaggtatccc caactgtttt  
241 tatttgcaaa tgagatataa ttgattgttt agacatatga agacagatcc tagtttaaat  
301 tgttgctact ttttttactc ctaaatgata aaaatcacac actcgagctc

## (2) INFORMATION FOR SEQ ID NO:2762:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2762

1 ttggcaggct ggtctcaaac tctgacctc aggtgatccg ctggcctcca cctcccaaa  
61 tgctgggatt acaggtgtga gccaccacgc ccggcctcac attttctaga ttccagtga  
121 ttgctgtttt ttgggatggg gaagtgtttt ttttatttta atgagcaatt ccataattag  
181 ttttttggtt ttttaccata atggcttatt tgaatattgt aaggtatccc caactgtttt  
241 tatttgcaaa tgagatataa ttgattgttt agacatatga agacagatcc tagtttaaat

301 tgttgctact ttttttacc ctaaatgata aaaatcacac actcgagctc

(2) INFORMATION FOR SEQ ID NO:2763:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2763

1 gctgtccac agcccaccct tcatacaat agtctgaaa ctttttgggt tcagtaagga  
61 aatctgtggg ctttctctcc agaaaaagca cacatttgca cacaattgga ggtagtgtat  
121 gagcctcta acaccacccc atgcacctcc caggggctgt gtccccagg ttgtgaacag  
181 tcactctgtg taaatagtga gacctacagg cagtaattca gtttggtgt gcttggtgg  
241 tttatttaga aagatgataa tgttt

(2) INFORMATION FOR SEQ ID NO:2764:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2764

1 gagctctcca agggcagaca ctgccagcct cactgttctc tgaaccccc gatatgggaca  
61 gtgcttgga cagaaaaacc cccttaaatg ttgctatga atggtgctaa ggaagaaggc  
121 agagaatgtc aaccagaggc caggcactgg caatatatac acggcccc

(2) INFORMATION FOR SEQ ID NO:2765:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2765

1 ataccttggc tcactgcaac ctctgcctcc caggttcaag cagttctcct gcctcagtct  
61 cccaagttagc tgggattaca ggcgcccacc accacaccgc gctaattttg tatttttagt  
121 agagatgagg ttccaccatg ttggccaggc tggctctgaa ctctgacct caagtgatcc  
181 acccgctcg gcctcccaaa gtgctgggat tacaggcata aaccaccgtg cccggtgtgt  
241 cca

(2) INFORMATION FOR SEQ ID NO:2766:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2766

1 gagctcatcc agcaggcttc ttaaatcagg agcttgtaag ttgcatataa agacaaaaaa  
61 gggagttcca aagagtaatg ctgtgggaaa tgacttgaat ttaaaccgtc acctgtttg  
121 atctcatgga ctggtcagac accatttttg ttgtcgtgtg tttgtttaa ttaattgtc  
181 agaatatagc agcaggcgca aattgtagta ctggttttaa aattgaagat taaattttaa  
241 attacccaac aaaggcctaa ctttgttaaa ag

(2) INFORMATION FOR SEQ ID NO:2767:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2767

1 gaattctacc gacagcctat ggttactgga tataagccaa ttctgttctg gggacttgcc  
61 agaaatgaca caattggcca gttgaccac agcctagtcc ctacagaga ttggaatagct  
121 gattgagcgt tgtggctgtt ttgaggcttg accagagatt cctgccgttg gcagagggga  
181 atctgtatgc tttgcttctt ggtagcaggt gaggtgaaa acgcaagtag caggctaaaa  
241 actggtttca agtcctcacc atctggtgaa acctcagagc ccatcagata gaaaatgcca  
301 gctgggactg tgctaattcg gtaaggcctg ggtggagaag gagggcctgg gcacgaccat  
361 ctgggttcgg aatggaggta gcagtcattt attaatgact taatgtatat cgggcactgt  
421 acaggagacg ttctggctgt tctcctgtac atttctgca aagacctaat gagatatgat  
481 tactccatcc tacaggtaag gaaactgagc tcagagagtc tagctgcccc gggtcacaca  
541 gtaaatgatg agccaggact tgaacacttg actgcttgaa tcctgtactc cctccagggg

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601 ccaagatgtg gcagctcaca gaatgcctat atcttttttt ttttttgrct tttgagacag
661 tctcactctg ttgccaggc tggagtgacg tggtagatc tcacctcact gcaacccccg
721 cctcccaggt tcaagtatt cttgtgcctc agcctctcaa gtagctgggt tacaggcctg
781 caccaccaa cctggctaatt ttttgtatt ttagtagaga ggggggttca ccatgttggc
841 caggccagtc tctaactgct gacctcaggt gatccacca ccttgggttc tgagataaca
901 gggattatag gcgtgagcca ccatacctag ctctacatct ttatcactct gttcctttgc
961 cttggtggga aaagtgtgag cttagtacca actgcctcct gcttgagcca ctgtgcacag
1021 ttactatcag cctggccctg taggcacgta gaacccctgg actcaatact gcataggatg
1081 ggataagacc acatctgatg tggtagaagg caccgggatg atgttgttct tgagataaca
1141 ggtatgtctg ccttccctcg ggttgcatth agctttcaca atcaacagtg ttgacatgaa
1201 gagcctgccc gactggacgg tgcaaaatgg gaagaacctg accctgcagt gcttcgcgga
1261 tgtcagcacc acctctcacg tcaagcctca gcaccagatg ctgttctata aggatgacgt
1321 gctgttttac aacatctcct ccataagag cagagagatg tatttttatc ctgaagtcg
1381 gatctatgac tcaggacat ataaatgtac tgtgattgtg aacaacaaag agaaaaccac
1441 tgcagagtac cagctgttgg tggaggtga gtccttgaa ctgagcacag gcaagcagat
1501 ggagcatagc acacagtggc gtgaataaca gctgtgaatg aatagtgaac ctggacttaa
1561 ctctccaccc atcaccctct cattcatctg cctggcattt tccttacctg aatacgttaag
1621 cactagacat attcccatt aggcaggccc ttcttctctt ccttccctct tcttctctt
1681 ccttccctcc ttcttctctt ccttccctcc ttcttctctt tcttctctt agtctcactc
1741 tgtcaccagc tctggagtgc agtgggtgat ctgggtcac tgcaacctct gcctcccagg
1801 ttcaagcgat tctcctgcct cagcctccca agtaattggg attacagtg tgtgccacca
1861 cactggcta attttgtatt tttagtagag atgggttct actgtgttgg tcaggctggg
1921 ctggaactct gacctcaagt gatccacctg cctcccaaaa tgcttcttca tctcgtcta
1981 taaattacaa ttcttctctt caagactcaa ctcaatgatg ttttgccaaa acaaaatggg
2041 tctaccccag ggtgccagtc agtacagctc tgaatgctct tctacaggca atggtatttg
2101 tgtgtataaa ggccacagcg gtgtgttaag acacctcgtt ctgcagtcac tctgctctggg
2161 tttcaatctt ggttcaagtc cttaacatgc tctaaacttc aaaatcctca ccagtataag
2221 gaagataaca acgataccca tttcaggcaa ttattgagag ggttaaaagt gtcattgtggg
2281 tagagtgtt agcaaaattt ccagcaccta gtgagttcct aataaataga aatgtattta
2341 tttatttgag acagagtctt cctctgtcac ccaggctaaa gagcaatggc gcgaccttg
2401 ctactgcaa cctctgtctc ctgggttcaa gcgattctcc tctcagacc tccaagaaa
2461 ctgggattac aggcacgccc cactgtgcct ggctaatttt ttgtattttt agtaaggatg
2521 gggttttacc atgttgcca gcctgtctc gaactcctaa cttcaagtga tttaccacc
2581 ttggcctccc agagtgtcag gattacaggt gtgagccacc atgcccgtc cacaatatt
2641 ctatttcaat cagtattggc atccgttctt acacatctgt ctgctctctt ggatagtga
2701 attgtaaaga cagagatggg gtttgggttt attcttatat cttgaacaa gaatctggct
2761 catagtaggc attcagtcaa tgttcatgga ataaattaaa gtcagtccta gcctgtgggt
2821 gcattcaata aagggttaaca acaatcacag tgacactgac aaatactggg ttacctttcc
2881 cctctaagca tcatctgttg ggaatctgat tgtgtcctct tcccaatagg attataaac
2941 attgaaaaca ccaagtacat cttgaccata ttttattttt taaatttatt tatttattta
3001 tttatttatt tttagacaga gtctcactct gttgccagg ctggagggca gtggcacgat
3061 ctacagtcac tgcaacctct gccttcgggg ttcaagcaat tctcctgct cagcctccaa
3121 gtagctggga ttacaggtgc ctgccaccat gccggctaatt tttgatttaa tagagatggg
3181 gttcgccatg ttggccaggc tggctcaaaa cctctgacct caggtgatcc acctgcctca
3241 gcctcccaaa gtgttgagat tacagatgtg agccacctcg cgtggcctta gtgtgattt
3301 tggtaggccc atcaccgag cagtgtacac tgtaccagt gtgtagcat tttatccctc
3361 gtcctctccc actctttccc ctgagtcctc aaagtccact gtatcattct tatgccttg
3421 ttctctcata gcttagctcc cattgagcat attttatatt ttttcttct ttttcttct
3481 ttttttgaga cagggtctct gttgccagg ctggagtga gttgtgggt tactgtcac
3541 tgccgctca acctcctagg ctcaagtgat tctccacct cggcctccca agtagctggg
3601 actaccagtg cacaccacta actaccctg gctaatttta atttttttt ttgtagagat
3661 agcatttcac cgtgttgccc aggtgtgtct ccaactctg ggctcaagag atccacccac
3721 ctacgctccc agattttata tatttcaaag tgctagtac tgtgctgggc acatactgt
3781 tcatttatta cctggtaggt cgcactgggt gttcagagaa caaaaaagag ccctctcatg
3841 ggatcaacta cagtcaacta gcggagggga gggcttgtgt ctctcaatca ggctgatact
3901 gacagacttt cttcttcaat caggctgata ctgacatgac tttctacttt ccccgtagga
3961 gtgcccagtc ccagggtgac actggacaag aaagaggcca tccaagtggt gatcgtgagg
4021 gtcaactgtt ctgtcccaga ggaaaaggcc ccaatacact tcacaattga aaaacttgaa
4081 ctaaatgaaa aaatggtcaa gctgaaaaga gagaagaatt ctgagacca gaattttgtg
4141 atactggaat tcccgttga ggaacaggac cgcgttttat ccttccgatg tcaagctagg
4201 atcatttctg ggatccatat gcagacctca gaatctacca agagtgaact ggtcaccgtg
4261 acgggtcagc atctgctccc ttctcatcgc ttctttgtgg tttctgtg

```

## (2) INFORMATION FOR SEQ ID NO:2768:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2768

```

1 gttctagaga agaaagggtg aattttaaag ttagtttaga acaatagaaa agtttgaaaa
61 ggggaagcag caaaaagagc agaagaggct cctcttggcc aggtttgcac ctgagtccaa
121 ccagggtgtc ttctctctct gcagaatcct tctctacacc caagttccac atcagcccca
181 ccggaatgat catggaagga gctcagctcc acattaatgt caccattcaa gtgactcacc

```

241 tggcccagga gtttccagaa atcataattc agaaggacaa ggcgattgtg gcccaaca  
301 gacatggcaa caaggctgtg tactcagtc tggccatggt ggagcacagt ggcaactaca  
361 cgtgcaaagt ggagtcagc cgcataatcca aggtcagcag catcgtggtc aacataacag  
421 gtagggtctg tgctgccgga ggtgtgtggc atatggcggg ctcaagaggc caccatgctg  
481 caatccagca tggccaaaga gagctgatca tttcctgccc ctgcttatct gaatgaattg  
541 gctcagatgg ggctttgtgt ctcgtgggag gaaaccactg cagagcgagt taacagtcta  
601 ctgtgctgtg tgagggtaca ggctccggca ccaaagctta accctgccgc tcaactgctt  
661 tgtgaccttg ggtgagttat tgaacgtgcc gcagcgctgt gagatggtga taatgacctt  
721 ttaggactgc tataatgatt aatgagataa ctatactgta agcatgagct gagagatttg  
781 tacagagtaa gactctgaaa cactggttaa tgttttcatt actctgttat atttctccat  
841 cccctgtgac aagcactatg ctatgac

## (2) INFORMATION FOR SEQ ID NO:2769:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2769

1 gaattccggc ctgtgaatcc atctggttct tggacttttt ttggttggtg agctattgat  
61 tattgccaca atttcagatc ccgttatttg tctattcaga gattcaactt ctctctggtt  
121 tagtcttggg agagtgtgtg tgttgaggaa tttatccatt tctcctagat tttctagttt  
181 atttgcttag aggtgtttgt agatattctc tgatggtagt ttgtatttgt gtgggacgg  
241 tgatgatata ccctttatca ttttttattg cgtgtatttg attcttctct ctttttttct  
301 ttattaggct tgctagcggg ctatcaattt tgttgatcct ttcaaaaaac cagctcctgg  
361 attcattaat tttttgaagg gttttttgtg tctctatttc cttcagttct gctctgattt  
421 tagttatttc ttgccttctg ctagttaag gagtttcatt cttgttgcct aggttgaggt  
481 gcagtggagc aatctcggct cactgcaatc tctgtctcct gggttcaagg gattctcttg  
541 cctcagcctc ccgagtatct gggattacag gcgcccacca ccattgctgc taattttata  
601 ttttttagtag agatggggtt tcaccatgtt gccaggctg gtctcaactc ctgacctcag  
661 gtgatccacc cactctgccc tcccaaagtg ctgggattac aggcattgag caccacacct  
721 ggccacaagt tgcaaaactt ttctaactct tgtcattgaa ataaattgga ttaacaagaa  
781 aggaaaacct gccattggaa tcctaggcaa agaattgaacc ctgactcctt actggggtga  
841 tcgttaggta catgagaagc aaaggaaaac tttttgctgg aagttggaag ttggttctgc  
901 caagagcacc tgagccaagg gcctctccag gaagggtctt taggggtgtg gccagacaca  
961 tctcgtctca ttcccactca ctgtttttca gaactatttt ccaagccga actggaatct  
1021 tccctcacac atctggacca aggtgaaaga ctgaacctgt cctgctccat cccaggagca  
1081 cctccagcca acttcacat ccagaaggaa gatacgattg tgcacagac tcaagatttc  
1141 accaagatag cctcaaagtc ggacagtggg acgtatatct gcactgcagg tattgacaaa  
1201 gtggtcaaga aaagcaacac agtcagata gtcgtatgtg gtgagtatat tgttgcgact  
1261 cagaggacat ccggggttga atgggagaaa ggaattttat ctgcagctgc cgccctctcc  
1321 ggtctccggg ctgagcagac tcaggcaggg taagaactag agggagagaa gtgcgaaatc  
1381 aaaggccaaa gaaacaagga ggtattcctg ctcaaacac tgattcactg atgatgatgt  
1441 ggctctgac ttgcaagatt ctggcaagac tctgcctcct ggagcaagac ccaccacaaa  
1501 gttcaggaag gaaacactac ttagtcaatg ttaaactttt cttttttttt tttgagacgt  
1561 gtcgcccagg ctagagtgc gtggcacgat agctcactgc aacctctgcc tcttaggttc  
1621 aagtgatctc ctgcctcagc ctcccaagta gctgggatta caggtgcccc ccaccacgtc  
1681 tgcttaattt ttgtattttt atttttatta cttttattta tttattttt ttttttttt  
1741 cggctctgtc cccaggctgg cagtgcaggt ggcacaatct gggcatcact ggaaagcatc  
1801 cgcactcctg ggtacacgag cattctcctg cctcagccct cccaagtggt tgtggactac  
1861 aggacacacc gt

## (2) INFORMATION FOR SEQ ID NO:2770:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2770

1 tcacttgagt ccaggagttc aagaccagcc tgagcacata gtgagacctt gtctctacaa  
61 aaaaataaaga attagccagg tgtgtgtgtc acctatagtc ccagctactc gggaggctga  
121 gtaggagga ttgcttgatt ctgggaggtt gtagtgagct gtcacgcac cagtgcactc  
181 cagcctgggt aatagagtga gaccctgtct caaatacaca cacacacaca cacacacaca  
241 cattttgttg gctacttgtt gtacttttct tatgttttct gtgtctttgc tcaacacaa  
301 aaaagtatat tatgtgtgca tgtgctgtgt agatatggtg aaatatgaac atgtatttct  
361 ggggatgtaa tgttttctct gaatttctgt cattctctgt tttgcttatt gtacttctct  
421 ttccctttcc cttctcacca cacacacaca cacacacaca cacacacaca cacagcctgt  
481 cagtctcata ggtgtcctat aaaggtaaaat ggcaggcagg catttgaaat tacagcaggg  
541 atagaaagca aaactcaggc tttggaggag gaacctcttg tgtggtatg tttgttttta  
601 ctttcagtg cttttggatt gtttctccct ctgtctaga aatgctctcc cagcccagga  
661 tttcttatga tgcccagttt gaggtcataa aaggacagac catcgaaatc cgttgcaaat  
721 cgatcagtg aactttgcct atttcttacc aacttttaaa aacaagtaa gttttggaga  
781 atagtaccaa gaactcaaat gatctcggg tattcaaaaga caaccctact gaagacgtcg

841 aataccagtg tgttgagat aattgccatt cccacgcaa aatgttaagt gaggttctga  
901 ggggtgaaggt gataggtaag ttgctgtgct gtgagaagaa atcatgtggg cttggggcat  
961 tctttcacc ccagggactg tggggacaat aagagaagta gggggccagg tgcggtggct  
1021 catgctgtga atccagcac tttaggaggc caaggccggg gaatcattga ggccaggagt  
1081 tcaagaccag cctggccaac atgggtgaac cccatctcta ctaaaaatac aaaaattagc  
1141 tgggcatgat ggctgagcc tataatcca gccactcggg aggctgaggc aggagaattg  
1201 cttgaaccca ggaagcacag gttgactga gccaaagtgc gccattgac tccagcctga  
1261 gcaacaagag cgaactcca tctaaaaaa aaaaagcgag agaagtatg ggtgcttatg  
1321 caaagtccat atactagata tgcacaaaag cagggccaaag gttcagtaaa ggaggctgga  
1381 aaatatttgg gggctattga tgaggacaat ataactctct tccagaacct ttcaacaaac  
1441 tgctaaaaga tgataagcat gaaagtgtcc tgactgcagg aagcactgaa gttgtgcata  
1501 tgggcttccc ttgactctct ctctctttca gatacactgt tctgagaatt gtagatcagg  
1561 actctgctgt tgtgactcct agccggggaa ccctgccttg tgtgaattcg agattagcct  
1621 ggccaacatg gtgaaatcct gtctctaata aaaatacaaa aaattagctg ggtgtggtg  
1681 tgggcacctt taatgccagc tactcgggag gctgaggcac aagaatcatt tgaacctggg  
1741 aggcagagtc tgcagtgagc caatatcatt ccgtacact ccagcctggg caacggagca  
1801 agactccat tcaaaaaaaa aaaaaattaa cattacatag actaagcact taatggtgtg  
1861 aggcatacaa aaaagaagac atattctttg tttcaatgct gtggaagaa acacaagctc  
1921 tcctaatgaa aatgatggac aaacatctga atcactact caataagcat agaaaaaatg  
1981 ttgggggtca tgtttggttg tcacgtgaac tatacctta cagtgtggt gatagtaatt  
2041 tagggtatgc cagacttcat ctgacttaag tgggtaaaca ttgtgaaaa gctgggctag  
2101 gtgccagggc ttgagaatgg gtggccagag aaggctgaag atggctgaac atctccagca  
2161 aacacatgag ccaaaaggtc ccatggggca cttcaaaaga ctgtgcgag ccagggtgag  
2221 tggctcacgc ctataatccc agcactttgg gagaccgaat ggggtgagc acttgagccc  
2281 agaggtttgt gactagcttg gccaacatgg caaaaccccg tctctactaa aaatacaaaa  
2341 attagccag cgtggtggtg ggtgtcctgt agccccagct actcaggtgt ctgaggtgtg  
2401 agaatcactt gaatccagga ggagaggtt gcagtgcagg aagatcgtgc cactgcactc  
2461 cagcctgggt gacagagtga gactctatct ccacaaaaaa aaaaaaaa aaaaaatta  
2521 aaggactgtg gccaaatcag atggctggaa acaaaggctg gagtttggga atggagaatc  
2581 accgatatg agctgaaaaa gtggctgagc ctaagcgtga cagggtgcag gtgcccagtct  
2641 caggagttag caattgtcct gcatgcagtg aaaaagccaga agatggaag aggacagga  
2701 tgcaaatgag ttctcggaac gatccacctg gtggctgggt caggagcag gcatggtgac  
2761 ttcagacctc atggtacgtt agaggcta atgtgaagccca tgtgaagctg ttggtttaa  
2821 ctgggtcgat atcagtgga cacttttact gaccatgtgt ccagccctgt gtgaagtact  
2881 gtagttaaatt gctccaatgg aaactcaca taaccacaga agccagtaa cagcattgtc  
2941 gttattttat catgacgcaa ctgaggctta gggcagacag ctggtgggtg gtgggactgg  
3001 gatttgagcc cactggtgtc ccaggcccg agcttggtt cttccattgt cttaccacag  
3061 cctgactca caggagagt actcataagt tacaatacca tctgctgacc atctgctctc  
3121 acactagaag gaaagtctac ttggggagac aatttaggat ccgaattttg ttagttgagg  
3181 atggagctag gaaaagcgga tacaggaggt agccaagttc tgcttgagc tgcaggaggt  
3241 gaggtggcc gggctccagg tggaaatccc caggtgaaaa gggagacttg gagttcagga  
3301 aagtaacctg gactggagcc ataggtttag gtgtcagtg ctcagagaca gaagctcagc  
3361 gtgtagtgta aatcacccag gaggagaatg gggatggaaa actgaggatt gaattttgca  
3421 aaattgtcat acttccgggg aaaaacaaaga ataaccagtg aataagaaag ggggtccagg  
3481 taagaaggga agagaatcag agtcatgagg aaccccagaa cccagaaaa agctgagttc  
3541 cacgtaagac ctgggcaaca gtgaagtatg gagagcccaa gattgggagc gtggaggag  
3601 agcatccacc actgaattta atcagccccg gactcagga cgttggttg ggaatcaagt  
3661 gaccttccca gtttcttcaa aacttgagag agagtgcagt gtcacaaagt tgtactaca  
3721 aaagagtgca gtcagatttc aggggttaaca agaaagtgtg aaataaggga gtcaaaagcat  
3781 aaagaaaaaa ggagaaaaaa tggccgatag ctagagaagg cgtgggtcaa gattgtctgt  
3841 ggcctggcat ggtggcttat gcctgtaatc ccagcatttt ggaaggccga ggtgggcaaa  
3901 tcacctgagg tcaggaaatc aagaccagcc tggccaacag ggcaaaacc cgtctctaaa  
3961 acaacaacaa caacaaaaaa atccaaaaag ttagtgggc ctggtgggct cactgtcat  
4021 tccagctact cgggaggctg aggcaggaga tttgcttgaa cccaggaggc acacgttgcg  
4081 gtaagctgag attataccac tgcactccag cctgggtgat aagagcggga ctctgtctca  
4141 gaggaaaaaa aaaaaagttg agcagtggtt gtctcatgtt cctcttctct tgcccttctt  
4201 tgetcagtgt gaatcctttt cctgcttttc agccccggtg gatgaggtcc agatttctat  
4261 cctgtcaagt aaggtggttg agtctggaga ggacattgtg ctgcaatgtg ctgtgaatga  
4321 aggatctggt cccatcacct ataagtttta cagagaaaaa gagggcaaac ctttctatca  
4381 aatgacctca aatgccaccc aggcattttg gaccaagcag aaggctaaca aggaacagga  
4441 gggagagtat tactgcacag ccttcaacag agccaaccac gcctccagtg tccccagaag  
4501 caaaatagct acagtgcag gtgagtcagg gtctccatag caagctgtgc tgtgggccc  
4561 caagggcaag accagaaaac accccccttg taagaggag tttgggggga gtctagctta  
4621 tgtgactgaa ggctaggaga gtaatgtcct ccaggctctt ggttgcaagt gacagaaacc  
4681 cactcaaat aagtaaaaaa ggaatatcga ttattataag gaattgggag aatgtcacat  
4741 cgttccaatt acaaatgttt ggcagactca ccatgagtc atcttggtc caacatccaa  
4801 ccacagacca cctgtagcca aggggatttg gtcacgcaga acagacatga ttggggaacc  
4861 acttatgttg gtgtgggggc ggtttcctgg agaagaagag ggctgaaaac acatgcaaaa  
4921 aaggagtcta ctccacttga gccctggagt tggagaccag cctgggcaac atggtgaaac  
4981 cctgtctcta caaaaagtac tgggcgcagt ggctcatacc tgaatccca  
5041 gctactcggg aggtgagac atgagaatca cttgaacca ggaggtagag gttgcagtga  
5101 gcagagcttg ctccactgca ctccagcctg ggcaacagag caagactctg cctcaaaaat  
5161 caaaccaaca aaaaatagct gtgtgtgtgt gtgtgtcct gtagtcccag ctactcggga  
5221 ggctgaggtg gaaggattgc tcaagcccag gaagttagg ctgcagttag ctgtcatcag  
5281 cctctagcct ggtgacaga gtgagacctt gttcaaaaag aaagaaaaag aaaagagctt

```

5341 acccagcaaa gctggttgt tccctccttg aggaccacag ctgacctcta tttgtagcag
5401 aaacaatcat ttctgcacca gctctgagtg cagaacctct cagaggtaga tggatgctaa
5461 ggcaagctgc cagttacaag agctgtgaga atcagactga cttttgttgc ttaaggcctg
5521 atattatttc ttcttgccag aggaagagcc tatatacaaa aaaaattttt tgttttgttt
5581 tgttttcagt cattcttgcc ccatggaaga aaggacttat tgcagtgggt atcatcgag
5641 tgatcattgc tctcttgatc attgcgccca aatgttattt tctgaggaag gccaaagggtg
5701 agcatagttc ttctcttcca tactgactgg tcgtccttgc caggaaacca gccagggtg
5761 cgtgggtgctt ttctgacccc tggattcagc taggcaaaaa tgaaagctat tattttcttc
5821 attgggcaaa ccagaaaaga taaaatttgg gggaaattac atctttgtgt ggttagaaga
5881 agccatttct gtagatttgt ccacacctag tcctgtaatg cgtgtagagt ggggtgcaag
5941 cgtcttgag acacacaaac atgcgcataa caccacatg ttgcacacac acattg

```

## (2) INFORMATION FOR SEQ ID NO:2771:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2771

```

1 acctctttct ttctgtctt ttgaaaaaga gtgaatatat ttgccttctt ttctctctt
61 ttctctgggtt ttcaatcttc tgggaagtc aaacgtagct gaaaagagt ttccttcaca
121 gcttactagg agtaaaacaa aaagaaaaga aaagtgtttt ctatctatta ggttagtgca
181 aaagccattg gcgttttggc cattatagtg gtatggatgt gggtagctga tactgacttt
241 ggtttttcgt ttctgtttt taaagccaag cagatgccag tggaaatgtc caggtagagt
301 tatttgtaag aagggggcgg ctgctctgtg agcacggtg acatgtctgg agggagattc
361 tggtcattag gaagttttca gtggctcttg gcaaaacttag aaaaatatag gccttccttg
421 ggtgtgagtt gtgtgtgtga gttgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtatctc
481 cgtggaagaa tgccaattgt ctttctatgg gaaggatgg cttttattct gagatcatgt
541 ccttcctaca tgattattg tgaattctcc ctttctttar gaaattataa tggtagtaga
601 taatttttta aaatttgaca aaatagagtt ggcctttaaa aaatggtttt actaccttta
661 ctgttggtga aatcccaaat caaaagtata gaaatgattg ctctgttcca gagagaaaca
721 gtagcgtggg ataagaattt cagggggcct ggtagtagcc tgtgaaggac tccggtattc
781 atgtgtgctt tggctctgat ttatttaata ggaaagt

```

## (2) INFORMATION FOR SEQ ID NO:2772:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2772

```

1 aaaaaaaaaa aaagttttt tacataatcc ttggagctgc caaaaaatat ttgttttcca
61 aatgagagag taaagtttt cttaccttgg aaaactcttc ctggttttct catgatcttc
121 ccttggttac ttgtgtggt tggggttaga acaataacaa caacaaatat atctatatat
181 tgttttctgt ttttatattt cattttaaag gccagcagta ccacttctga actccaacaa
241 cgagaaaatg tcagatccca atatggaagc taacagtcac tacggtaaag tcatgttctc
301 ctgccattta taattccccc caacttgcta catacttctc taccctctc agaagcagaa
361 tatgtaagt gtgggattac agttggaaga gaaaccttgg cttcaacagg gtacttcac
421 tcatcagcca ctgggccatg taatatacgg aaacgtaaaa ggaaaggtaa catattttat
481 tctaactttg ccaccttcca aactccccgt agaagaaaga tggagaataa tcataatgcc
541 ttcaaaagact ttgaacattg ctccagctga atattataat tctccatttt caagacagag
601 acagatattg aatgaaacat tggtaaacad cttctcagat ggaattatta caagcacaag
661 acagttttac ttcaaatttg gcacaaaggg aaagcaattt caatattctc tcagtaaagg
721 cataaataaa gtgttccaac taagaaaata tctattcata aggtcatca gtagcttcag
781 ggtcagctca gctgaatgag taggcagtc taggagtct taatccagg ttagtaagaa
841 aattgctcaa gcatttcagc aggatgctac ttacttccca gagggggta ttattacatc
901 acaaaaagtc ctgtcccaga ccaaatttgg ggacactctt cctctt

```

## (2) INFORMATION FOR SEQ ID NO:2773:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2773

```

1 atagccacga ctcaaataa ttgatcttag aatctaaaag acttaggtct gggcgcggtg
61 gctcagcct gtaatctcaa cactttggga ggccgaggta ggtggatcac ttgaggtcag
121 cagttcaaaa accacctggc caacatgggt taacctgtt tctactaaaa atacaaaaaa
181 ttagctgggc atgggtgtag atgtttataa tccagctac tcaggcaggc tgaggcagga
241 gaataccctt gaacctggga ggtggaggtt gcatgacctg a
1 tggacctcaa catgcacacc agtccgagca acaagagcga aactccatct caaaaaagaa

```

```

61 agaaagaaag aaactatatt caggccaggc atggttagttc atgcctataa cccagctct
121 ttgggaggct gaggtgggag gatcattgag cccaggagtt ggagaccagc ctgtgcaaca
181 aagcgagaca tggagaatgt ggaacgagg acccaggacc cagagacagt gctggttgtc
241 actacactga ataaatcagg ctgactttg ttaggggtac tgaattttta aaagggtttt
301 agaaaactag aatttccctt gtcactcacc ctaattgtta ttttcaact aggtcacaa
361 gacgatgtca gaaaccatgc aatgaaacca ataaatgata ataaaggtaa ttatctaatt
421 acatgttttt attagaacca acttttacat taaaaaaaag actcatagga aaagaaaact
481 aaaacttgaa ggactgtgga taatttccca cctctcttaa tgaccctgta cccagccgat
541 gtgtcaatga aggtagctag ctgctttcac cagagatgct atctagtgtc ctcaagtggg
601 agtacctaaa tcaaagtagg gaagaactgg gttatactca aaaaa

```

## (2) INFORMATION FOR SEQ ID NO:2774:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2774

```

1 acaacaactc tgtggtttct ttaggcagag cctctgaact cagacgtgca gtacacggaa
61 gttcaagtgt cctcagctga gtctcaciaa ggtaagtgcc actcgagtga gtccccaggc
121 attcgctttg gcttgggttt aaaccccagt ggtggcgggg gtgctgtgtt cagtgagaag
181 agtctgtgca ccctcagtcg ctccaaagga agtgattagc agacctaccg gcctgctaag
241 actggaagga gcaaggcccc tggcctggcc tgtctctgag ctgtaaaatt tcaataattt
301 aaaagaaaaa aagaaaaggc caggcactgt ggctcacacc tgtaatccta gcactttggg
361 aggccaaaggc gggtgatca cctgagatca

```

## (2) INFORMATION FOR SEQ ID NO:2775:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2775

```

1 tatattttat atattaatat ataaatataa atacatatat aatatataat atatgttttc
61 tttgtgtata atatatattt tataatatatt tatatatatt tttttttat ttttatatat
121 tttatatata atatttttat atttatatta tttatatatt ttttatttta tatatatata
181 tatatttttt tttttctttg ttgagacgga gtctactctc tgcccaggct ggggtgcagt
241 tgcgagatct

```

## (2) INFORMATION FOR SEQ ID NO:2776:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2776

```

1 tgcaaacctc tgcctccggg ttaaagcagc attctcctcc ctcagcctcc cgagtagctg
61 ggattacagg catgtcaccc ccacagccgg gtaatttatt ttttttttt ttgtattttt
121 aagtagagat gggatttcac catgttgccc agcgtgaact cgaacttctg acttcaaaag
181 atccaccccc ctcagcctcc caaagtgtcg ggattacagg tgtgag

```

## (2) INFORMATION FOR SEQ ID NO:2777:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2777

```

1 gaattcaatt tgagttttcc agaccctgcc tcctccttgg cagctaagga gcagtgtggg
61 aagtcaggcc tgagcctcag gtgttccctc tctgccttcc tgtgggtgga gagccaggta
121 ttaccaggtg cgaaaagggg ctttgtgggt acaaggctca gtggtgagta catttgacct
181 ggtcttgacc aagccagttc cctgctctca agacttcctc ctcctatgga ggaggggttg
241 ggaaccacat ccagctctga ccctagtggc aggcgaccaa gtggtcactt ggggtggagg
301 aggggcagga aggaactcag taaatccttg tttgctgcat gtttgcctcg agactaattg
361 ctgggaaaaa cccatgacgt ttggaagccat ctccttctct gttatcacag agaaaaacag
421 aagcctaaat aaagccccat ccggaacat ccctgacagc agagacaaaag agcctgccag
481 cctggtttac tcattagcaa gcagctgctc cctggagtgg gtggggagga gaggtagtga
541 tgagctgcaa ctctgcctgc ccaccatca cttaactggg cagatttggg ggcagctgca
601 actctagaag ctccaccaag aagcagaacc ccccaggccc aaacaccaag ccctctccct
661 ccatttattc ctcacctgcc ccagcccca ctgtgggcct ggggtggagg gtgagctggc

```

```

721 cgtgaccacc ccaccatgcg cctgggtatat ggtgtttgat agcatttgtt gcagtgtctg
781 cgttgtttgt gcacctgtct gcctcacagc ctggagctcc tgaaagctgg ggaccaggcc
841 cgatcacctt tctcttcca cagtgcgggg ttccactag gtgtctagga ttctgtctgag
901 tgagtgtatt ggccaggcct gacatcaagc agagggtgtc ttggggatgt ggaggatccc
961 ccaatagggt tggggatccc tacagcttcc cttgagggcc ccacatctgg tgccacagaa
1021 agagagtgag ggggtgtgtg gcattctctg tgtcccagca gtgtgggtgc ctggtagctc
1081 agccactcta ctgagttcca aatcctgttt ggggtgccctg ggggaagtca gtgtaagggc
1141 ctagtca

```

## (2) INFORMATION FOR SEQ ID NO:2778:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2778

```

1 aaggaggaa atccacttga ccatggcaca ggaaccccc ttaccaatc tgggccttcc
61 ctttccccca tctgtaaaag gagaacagt cccacacgac atcagcctct ttctctacag
121 tgagccttcc tggccctttg tgcagtagac aggagctggg aagtgtcccag gttccatcct
181 gtttctctcag ggttgggtggg tatgtatgtg tgtgcacacc ctgtgtgcat gagtgtgtgc
241 acaccagat tgcatgtttg tacatacagt gtgtatacaa tgtgtgtaga cacatcttat
301 acactgtatg agggatatac tagcatgtat acacattgtg tgcatgagt tgctgtgtga
361 tatgtgtgtg gtgtattttt gtatacacat cctgtgcccc taccacagtg taaggtaaac
421 agatggcagg aagggcgccc ttgagtctcc tccaggtata cgccacacc tggttcagtc
481 atcatgtctg catattgaga ggttctagcc cagaggatct cagccctgtc tgcatattag
541 ggccctctgag gagatcctaa aaaaccagca ccagggaccc cccagacca atccaaccag
601 aagctgcagt gagggccagg agccagcagt gaaaacagcc agccagctg tctatctctg
661 taagagtctc cagtcaccagc tattcctagg gtcactgaca acccccaggc tctaaccag
721 acctcaggat cttgttctgg atcccgggg ctgggctctc aggtgattgg gaggccatag
781 cccaaccctg cgttgaggga cctggcagaa tgtctggaca aggttcacgg tggcagggga
841 agaggagtgg gggcagcaag ctggaggctg caggcccttg ctggggggct ctccaccgt
901 gggccctca ggtccagggg ttctctgtgt gcatgtggcc ctgtccaca atggcctgct
961 gacctcttat tcccagactg ggagtgcgc tcgttagacc aagacctctt tcttctctt
1021 cttttttttt tttgggaggt ggtgtgtcac tgtgtgtccc aggttggagt gcagtggcgc
1081 aatcttggct cactgcaacc tctgcatcct gggttcaagc gattctctgc ccttagctct
1141 cgagtaactg ggatcacagg gacgcaccac catgcccgtt taattttttg gaatttttag
1201 tagagacggg gtttcggcat gttggccaga atggtctcaa cctcctgacc tcaagtgatc
1261 ttgccccctc aacctcccaa agtgctggga ttacaggtat gagccacctt gccagccag
1321 gatcttctaa catcagaaat gacaaggtct ctgggtgctt ctggacctgg ttctgtggg
1381 gtgcagtgtg ggggtacagc ttgacctgca gacctcaga ctttttcta ctagtcagt
1441 ggactgacct cgttcccaga ggcagctact aacttatgcc tggtcctttt tccagatcta
1501 ggaaagaagg acacagagac agtgtagact gaagtccgga aagctgtccc tggtagtgga
1561 ggggtctccag tgccccagcc tgggggatgc cccctataat cactgatggg ggcttgggag
1621 tgggcagaga aaagaagaag caaagaaggg caaaaaaggg gtggcacctt ttaccagc
1681 gctgtgggct tctctctctc caccacctt aaaaagtac ctcgggtcac atttactatt
1741 catgtagtca acgagcgtt cttgaatgct tactgacccc agccgggtgac ccttacctgc
1801 tccccacaca ggccctgggt gctgggggtc ccaagggtct tggacgtcga gtgttttgc
1861 ttggagaccc ccagtgcctt cagcctttct tcttgttttc ttttttctc ttttttttg
1921 gggatagcga gtctcgtctt gtcactcagg ctggagtgcg gtgggtgcaat ctgcactcac
1981 tgcaacctcc acttcccgga ttttaagtgt tctcctgcct cagcctccca agtagatggg
2041 attacaggcg cctgtcacca cactcagcta atttttttt tttatatttg ggagacagag
2101 tttcgtctct gatgcccagg ctgggggtgca atggag

```

## (2) INFORMATION FOR SEQ ID NO:2779:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2779

```

1 tgcgtggatt accaagtgtg acccccggcc ccagcagctt cagcttttct gacaagaaga
61 ctgacttttg gagtgggtgt gggtttgcgg atctactcta ttctcttgg ttccgtgccc
121 cccacttcgc ttcccgtagc gaccactgc ttactcatga aagggcttcc cccagagctg
181 agcacagagc ttaagcagac ccggaactgg gggagctcaa caagtccttt ttttcggtgg
241 ggggtataa taactgtatt caattcaggt gaaatgaaat acacaatgac aacttttaaa
301 ttctgaagg taaagtcagaa tccgaaagac gtaaacattg tgggggaaat agtgcactgt
361 tgagtatctc gctttgtaca gcagacctct atttaagtgg gttcttggaa agggaatcat
421 taaaatgggt caggacattt ctgcaaaggg tgcctactca gcctaggcgt ggtggctcat
481 taagcactca gtaagtgtct tttttttt ccccaataa ataaataaat ataaaggat
541 gactcctccg agtacagtcg ccaaaccagc agcagcaatc tcggggccag cccagaccca
601 caaaactagt ctctggaatc tgaacttagc cagcttcaga tgtttctgat gctgccaata
661 tttgagaagc actgtttgtg ttttgttttg tttttttgtg tgaaacagag tctcactctg
721 tcaccagac tggagtacag cagtgcctac tcagctgact gcaactccgt gcaacacccc
781 ccagccccta aggttaagc gatcctccca agtagctaga accacagaca cacaccacca

```



```

841 tgcccagcta agtttttgta tttttgtag agatgagggt ttaccatgtt gccagactg
901 gtgttggaatt cctgagctca agcaatccac ccccttcggc ctcccaaagt gctgggatta
961 caagcgtgag ccactgtgcc agggcaaaaag cactgtttta gaagaacct ccaattctct
1021 gaggaccctg ctttttatct gaaatagcga tcacttctta attcactttt aaaagtgggt
1081 atatctacaa gaagaataga aactcaaccc ttgtggaact tgaccctgaa taatttttga
1141 aaaaccaatt ctctggggaa ttttagctc aaatacctca ttt

```

## (2) INFORMATION FOR SEQ ID NO:2780:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2780

```

1 aaaaaaaaaa aaaaaaagaa gaagtagttt ctgcttttag tcagataaac aagctctggg
61 gagacttctt tctacatctg aaccagctca aaacaatcct tatgccaaag gggcatattt
121 tgtggtggca tattctgatt tccttcattt gcttttagggc agctggctgt tcaagtgggt
181 tctctcgggg tctccaggtt ggttctaga

```

## (2) INFORMATION FOR SEQ ID NO:2781:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2781

```

1 cttcttttct ttcttttctt tttttttttt ttgagacagg gtcttcgctc tgtcaccag
61 gctggagtgc agtggcgcgca tcgcagctca ctgcaacctc cagctcccg gttcaagtga
121 ttcttctgcc tcagcctcct gagtagctgg gaccacagct actgccacca cccccgggta
181 attttttttg tatttttagt agagacgggt ttccaccata ttggtcaggc tgatctcgaa
241 ctccagacct caggtgatcc acctgccttg gcctcccaaa gtgctgggat aacaggtgtg
301 agacaccacg cccggccaga tcatat

```

## (2) INFORMATION FOR SEQ ID NO:2782:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2782

```

1 gatcctatct acgggaaaca tgaagagtaa tattctactg tggcctgggt gaccctgggc
61 aagtcataga gcctctcaag accttgggtca cttctctgtg gagatgaggt atgggctgga
121 ggcaggtcag tggctcctcg gctttattaa aacatcaata gtttggcgca cccactccc
181 tgtgaatttc ccattcacta ggtctggagc ggtgccgaaa acgtgcattt ctaacaggtg
241 tccacacgca gctgctcgcc gacacgctgg ggcccgggct ttgagaacca ctcttgatgc
301 agcatgttcc tttctgattg tgccacgcta aggtctctgt tcttgttggg aggagtaggg
361 tctttctcac cctccagaaa tcctggaggg atctttcagc attggtgggc aggtaaaacc
421 cagaaacact gtgcttatta gaggaaggt tgtattgagt gaccccaat aaaacagggg
481 gccaggggcc gcgcgcagt gctcacgcct gtaatcccag caatttggga ggctaaggcg
541 ggcggatcat gaggtcagga gatcgagacc atcctggcta acacggtgga aaccccatct
601 ctactaaaaa tacaaaaaat tagctggacg ttgt

```

## (2) INFORMATION FOR SEQ ID NO:2783:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2783

```

1 agataagcaa tagggcatgg gcaggcctgc ctccaaggag cagccccagg gccgaggaga
61 gagagctggc gctggccag gggacttgag ttgatggga aagcttgag acagtggggg
121 agctgcctgg tctttccagt cttggctttt ggctctaagc acagcttttt tttttttttt
181 ttttaattgt gtatcatgag gcgccttoca ctgagctgcc tccccaggtt aggggatgga
241 cacagcactg gcagggatcc tgtgtgtctc agtttcctta ttgactctct gtggcctaga
301 ggtgtatggt agaattccac actatgcttt ttttccaccg tgtttttttt tttttttttt
361 tttagagacag ggtctctctc tgtcaccag gctggagtgc agtggcgcaa tcttggtcga
421 ctgcaacctc cacctcccca ggcaggcccc tctgactcag ctgggactac aggcattgcac
481 caccagcacc cagcaaaata tttttatatt ttagtagaga tggggtttcg tcacattggc
541 caggctggtc ttgaactcca gagctcaagc aatccgccc cctcagcctc ccaaagtgtc
601 gggattacaa tgcccagccc actttttttt ttacttttta caattttatt cttaaaattg

```

```

661 tggtaaaaca catatcacat aaaatttacc attttaactc taagtatcca gctcagtggtg
721 actaagacta cacttttggg tgtcatagcg tggatgaacag agaagagaat gctactgctg
781 ctctgtggaga gaggccaggg gataccgcta aacatgagac aatgcacagg acagtcacctt
841 ccccaccaca aaacaccacc cagcccaaaa tttcaacagg gccaccatgg agaaaccttg
901 gccagaggaa ttcacctctt gcaactcttc caacaggaga gctgggtttt ctctccagta
961 ccagcttggtg gctgccctct gtcttgggag ggtgacttaa gggcacatcc cacctgatta
1021 ctgtgggctc tggatgggtg ctgagttctg gtctggggaa cag

```

## (2) INFORMATION FOR SEQ ID NO:2784:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2784

```

1 aaattaccca ggcattggtg tgtgcgctg tagtcccacc aacttgggag gctgaggcag
61 gagaattcct tgaatctggg aggcggaggg tgcagtgaag cgagatagtg ccagctgagg
121 caggagaatt ccctggaggg agaggttacg gtgagccaag atggcgccac cacactccag
181 cctgagtgac aaagcgagac tctgtctcaa aaaaaaaaaa ataaagaaaa ttttaaatga
241 agtgccaggg actttatgag catgtcatgt ggagctagct acaggggtccc ggggaagctg
301 tcttgacaaa aggagccata aacctctaag ggcactgccc gctgatgtct cctggctctc
361 gcctcctccc tcttttctcg acctgtcctt gacctgtga tgttgttggg gcagtgaac
421 tgggttattt gcgttgctca ctgccatgtc atcctttgtt ttgtagatgc cgtggaaagc
481 agatactctg taagtacaca tttcatatac attatattta aaagtactcc actgaacagt
541 gaaatatttc cagactcacc cagcctgca ttcacacgaa ttcttccccg ctccctagcc
601 tgttcagacc agaagccctg ggcttctctg actagccttg gccagttctg atttcgaata
661 ttctctcctg caatttccat cattacatct cagcccacac gtgaagggat tgggactctg
721 ggggtgcttag cgccaaacaa gcaaagcaca catttcgttt aacgccaag tctaggctct
781 ggaagtgagg cagatctagg gtgtatgctt ggaggagtgg agcagctgac agctcattgc
841 aatttagccg atactaatta cccctacac accaggccat cagctgcagg aggacacca
901 agcttcttga cctcagttca cttctgtatg agggaatcag acatgtgatc acttatcata
961 aagccaagtg agctatgcca gagcctatgg gaacacagaa cagagacctt gctagtcccc
1021 tcttcccaaa ggaatcattt ggaatggccc atgaagaatg aatggagtga tgatgccagc
1081 atttgaggag aaagatcagc aggagcacia ggggtgaggga tgaccagttt caagcagtgt
1141 gggatgggaa agaagagtgt gacagtgaac agtgacggga gaaagataag tcagggttta
1201 aatccaaagg atttacatcc cttgttaaga agcttcattc ttaggaaat ggagttagga
1261 atctgcattt ggcagatggg aggggtttatg aaagacacag aggccacgt tcaacttttg
1321 caaagacgtg tcttccaatc ccaacctttt tgtgagctac ccagcaatgc aggagttaac
1381 tgggcagcta atatctgaag aaatgaggca tttgccgat aaacttctt taggtctggg
1441 aagaactttc agcaaagatt tcaggtagct cttccagtgg cccctggctt ccttgtttt
1501 gcccatgtca ggactcttgt aaaacagagc tc

```

## (2) INFORMATION FOR SEQ ID NO:2785:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2785

```

1 gagctccagc tttcagctg tcttttgggt gagcctgtct tctcaagct caagcttctt
61 tatctataaa gtggagatgg tgatgacaat gatgataaga gcaacctatt aggattttta
121 ggatgaaatg agcaactgca accaccatat aaaagctgca agctgcaaac caccatataa
181 aagctgggtg atctcaagct cttttcatca cttgggcaat agtaggtgtg gatgggggac
241 ttaacttgat ttggccatga aatgaccttg ccacatatgg agaatgtagc agttgcttac
301 ccaaggcata ggattcaacc aaggccaggc tttgacttag gaatcagaga cccacattaa
361 catttgactt cccgcttctt agccatgtca ccattgggcaa atttcttggc ctctcaagac
421 ctctgcttcc taatctgtaa actgggaatc ataaactccc tcaattgggtt gttgcaaggg
481 ttgaatgagc ac

```

## (2) INFORMATION FOR SEQ ID NO:2786:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2786

```

1 ctatcaatct ccagagcttt ttctttttta gtgtgagcga gtttattaga gaagtaaaga
61 gacccaagag tgccactctc atagacagag cagccactgt gacactgtac ccattaaaca
121 ctaactctcc attgcccctc cagcaacccc tagcaccac tgtctacttt ctgtctctat
181 gtggttgtct atttgaggga catcacataa gtggagtcat atatttgtcc ttctatgtct
241 cccttatttc atttagcata acgttttcaa gggtttcttg tgttgtgaat atatcagaat

```

```

301 ttcattctct ttttaaggta gaatcatatc attttaaac atttcagttg gaccatctaa
361 gttcagtcct tcattttcaa caattaaaaa acagccctca accgggtgca tctcacgtta
421 gctagagaca gaactggagc tagaagtcag atctcttacc aaagtgcctt ttcttctctt
481 gtgggttaagt ggggcaccct tgggacgctg tgctggcggt acatgggtgc ttgatgaagt
541 tacttggtgg actgatgtga ttgatgtcca acatgtatgc agggacagag gctatgggtc
601 ctacagagca ggcattggaga gaaggagaaa tacatacggg caggagccag gagagggagg
661 gtgtagttag cagagaccgc gccactgcac tccagcctga gtgacagagt gagaatccat
721 ctaaaaaatt gcttactaaa gaagtgggtc cctgaggtct taagacgttc ctggcaatgt
781 cttgagtggtg tgggagagag cctccagtca ttgagctgtg gaatttcaga ggtgagaacc
841 acaccctaacc cccaattact ttcccctggt tgcctcagtg acacagctgc aggaaccctg
901 gtgggtgttg tattaagtaa atttgacctt tattctttgc agatctgtga aatgttgtct
961 tctgaggggc cacgtgtatc tgtagtgctg aggactcctt ggggcctctg aagtcacaga
1021 gagaacctgc aggggtgggg accagtgtgt gacagccctg ctttgcatth tctttgagaa
1081 gtgctgtcat tttgcatttc tctccaccag gggaatcttc aatcttgaga ggtgtgatca
1141 taacttgctt tgtttcttgt cgctacagag aacggaaggc tcccttgatg gaacttagac
1201 agcaaggcca gatgcacatc cctggaagga catccatgtt ccgagaagaa cagatgatcc
1261 ctgtatttca agacctctgt gcacttattt atgaacctgc cctgctccca cagaacacag
1321 caattcttca ggctaagctg ccggttctta aatccatcct gctaagttaa tgttgggtag
1381 aaagagatac agagggggtg ttgaatttcc cacataccct ccttccacca agttggaaca
1441 tctttggaaa ttgggaagag cacaagagga gatccagggc aaggccattg ggatattctg
1501 aaacttgaat attttgtttt gtgcagagat aaagaccttt tccatgcacc ctcatacaca
1561 gaaaccaatt ttctttttta tactcaatca tttctagcgc atggcctggt tagaggctgg
1621 ttttttctct ttctctttgg tcttcaaaag gctttagtth ttgggtagtt ctgttctttt
1681 ggaaatacac agtgctgacc agacagcctc cccctgtccc ctctatgacc tcgccctcca
1741 caaatgggaa aaccagacta cttgggagca ccgctgtgta aataccaacc tgaagacagc
1801 gttcattcag gcaacgcaca aaacagaaaa tgaagtgga acaagcacat atgttcttca
1861 actgtttttg tctacactct ttctcttttc ctctacatgc tgaaggctga aagacaggaa
1921 agatgggtgc atcagcaaat attattctta attgaaaact tgaatgtgt atgtttctta
1981 ctaattttta aaaatgtatt ccttgccagg gcaggcaagg tctgcacgcc tgtaatccca
2041 gcacttcagg aggtctgaggt gggcggatc

```

## (2) INFORMATION FOR SEQ ID NO:2787:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2787

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## (2) INFORMATION FOR SEQ ID NO:2788:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2788

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841 acacctaaccc cccaattact tccccctgtt tgccctcagt acacagctgc aggaaccttg  
901 gtgggtgttg tattaagtaa atttgacctt tattctttgc agatctgtga aatgttgtct  
961 tctgaggggc cactgtgatac ttagtgctg aggactcctt ggggcctctg aagtcacaga  
1021 gagaacctgc aggttggggg accagtgtgt gacagccctg ctttgcatat tctttgagaa  
1081 gtgctgtcat tttgcatttc tctccaccag gggaatcttc aatcttgaga ggtgtgatca  
1141 taacttgctt tgtttcttgt cgctacagag aacggaaggc tcccttgatg gaacttagac  
1201 agcaaggcca gatgcacatc cctggaagga catccatgtt ccgagaagaa cagatgatcc  
1261 ctgtatttca agacctctgt gcaacttatt atgaacctgc cctgtctcca cagaacacag  
1321 caattcctca ggctaagctg ccggttctta aatccatcct gctaagttaa ttttgggtag  
1381 aaagagatac agaggggctg ttgaatttcc cacataccct ccttccacca agttggaaca  
1441 tccttgagaa ttgggaagag cacaagagga gatccagggc aaggccattg ggatattctg  
1501 aaacttgaat attttgtttt gtgcagagat aaagacctt tccatgcacc ctcatacaca  
1561 gaaaccaatt tcttctttta tactcaatga tttctagcgc atggcctgtg tagaggtctg  
1621 tttttctctt tttccttttg tccttcaaag gctttagatt ttgggtagt cttgttcttt  
1681 ggaaatacac agtgctgacc agacagcctc cccctgtccc ctctatgacc tcgcccctca  
1741 caaatgggaa aaccagacta cttgggagca ccgctgtgta aataccaacc tgaagacag  
1801 gttcattcag gcaacgcaca aaacagaaaa tgaaggtgga acaagcacat atgttcttca  
1861 actgtttttg tctacactct ttctcttttc ctctacatgc tgaaggctga aagacaggaa  
1921 agatggtgcc atcagcaaat attattctta attgaaaact tgaatgtgt atgtttctta  
1981 ctaattttta aaaaatgtatt ccttgccagg gcaggcaagg tcgtcacgcc tgtaatccca  
2041 gcacttcagg aggtgaggt gggcggatc  
1 gaattccggg agaagtgacc agagcaattt ctgcttttca caggcgggt ttctcaacgg  
61 tgacttggtg gcactgcctt ctgctgagcg agtcatggcc cgaaggcaga actaactgtg  
121 cctgcagtct tcaactctcag gatgcagccg aggtggggcc aaggggccac gatgtggctt  
181 ggagtcctgc tgacccttct gctctgttca agccttgagg gtcaagaaaa ctctttcaca  
241 atcaacagtg ttgacatgaa gagcctgccc gactggacgg tgcaaaatgg gaagaacctg  
301 accctgcagt gcttcgcgga tgtcagcacc acctctcag tcaagcctca gcaccagatg  
361 ctgttctata aggatgacgt gctgttttac aacatctcct ccatgaagag cacagagatg  
421 tattttattc ctgaagtcgg gctctatgac tcagggacat ataaatgtac tgtgattgtg  
481 aacaacaaag agaaaaccac tgcaagtagc cagctgttgg tggaggaggt gccagttccc  
541 aggttgacac tggacaagaa agaggccatc caagtgagg tctgtagggt caactgttct  
601 gtcccagagg aaaaggcccc aatacacttc acaattgaaa aacttgaaat aaatgaaaaa  
661 atggtcaagc tgaagagaga gaagaattct cgagaccaga attttgtgat actggaattc  
721 cccgttgagg aacaggaccg cgttttatcc ttccgatgtc aagctaggat catttctggg  
781 atccatagc agacctcaga atctaccaag agtgaactgg tcaccgtgac ggaatcttcc  
841 tctacacca agttccacat cagccccacc ggaatgatca tggaggagc ctagctccac  
901 attaatgca ccattcaagt gactcacctg gccaggaggt ttccagaaat cataattcag  
961 aaggacaagg cgattgtggc ccacaacaga catggcaaca aggtgtgtga ctcatcatg  
1021 gccatgggtg agcacagtgg caactacacg tgcaaaatgg agtccagccg catatccaag  
1081 gtcagcagca tctgtgtcaa cataacagaa ctattttcca agcccgaact ggaatcttcc  
1141 ttcacacatc tggaccaagg tgaagactg aacctgtcct gctccatccc aggagcacct  
1201 ccagccaact tcaccatcca gaaggaaagt acgattgtgt cacagactca agatttcacc  
1261 aagatagcct caaagtcgga cagtgggacg tatatctgca ctgcaggat tgacaaagt  
1321 gtcaagaaaa gcaacacagt ccagatagtc gtatgtgaaa tgctctccca gccaggatt  
1381 tcttatgatg ccagtttga ggtcataaaa ggacagacca tcgaagtcgg ttgcaatcg  
1441 atcagtggaa ctttgcctat ttcttaccaa cttttaaaaa caagtaaat tttggagaat  
1501 agtaccaga actcaaatga tcctgcggta ttcaaagaca accccactga agacgtcgaa  
1561 taccagtgtg ttgcagataa ttgcatctcc catgccaata tgttaagtga ggttctgagg  
1621 gtgaaggtga tagccccggg ggtgaggtgc cagatttcta tctgtcaag taaggtgggtg  
1681 gagtctggag aggacattgt gctgcaatgt gctgtgaatg aaggatctgg tcccatcacc  
1741 tataagtttt acagagaaaa agagggcaa ccttctatc aaatgacctc aaatgccacc  
1801 caggcatttt ggaccaagca gaaggctagc aaggaaacag agggagagta ttactgcaca  
1861 gccttcaaca gagccaacca cgcctccagt gtccccagaa gcaaaatact gacagtcaga  
1921 gtcattcttg ccccatggaa gaaaggactt attgcagtgg ttatcatcgg agtgatcatt  
1981 gctctcttga tcatgtcgcc caaatgttat tttctgagga aagccaaggc caagcagatg  
2041 ccagtggaaa tgtccaggcc agcagtacca cttctgaact ccaacaacga gaaaaatgca  
2101 gatcccaata tggaaagctaa cagtcatcag ggtcacaatg acgatgtcag aaacctatga  
2161 atgaaccaa taaatgataa taaagacct ctgaactcag acgtgcagta cacggaagtt  
2221 caagtgtcct cagctgagtc tcacaaagat ctaggaaaga aggacacaga gacagtgtac  
2281 agtgaagtcc ggaaagctgt ccctgatgcc gtggaaagca gatactctag aacggaaggc  
2341 tcccttgatg gaacttagac agcaaggcca gatgcacatc cctggaagga catccatgtt  
2401 ccgagaagaa cagataatcc ctgtatttca agacctctgt gcaattatt atgaacctgc  
2461 cctgtctcca cagaacacag caattcttca ggctaagctg ccggttctta aatccatcct  
2521 gctaagttaa tgttgggtag aaagagatac agagggg

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2789

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1  tggtcacatc agtttctttt ctcacattga ctgcaagatg aaactccttg tgctagctgt
61  gctgctcaca gtggccgccc cgcacagcgg catcagccct cgggccgtgt ggcagttccg
121 caaaatgata aagtgcgtga tcccggggag tgacccttc ttggaatata acaactacgg
181 ctgctactgt ggcttggggg gctcaggcac ccccggtgat gaactggaca agtgctgcca
241 gacacatgac aactgctatg accaggccaa gaagctggac agctgtaaat ttctgctgga
301 caaccctgac acccacacct attcatactc gtgctctggc tcggcaatca cctgtagcag
361 caaaaacaaa gagtgtgagg cttcattttg caactgcgac cgcaacgctg ccatctgctt
421 ttcaaaagct ccatataaca aggcacacaa gaacctggac accaagaagt attgtcagag
481 ttgaatatca cctctcaaaa gcatcacctc tatctgcctc atctcacact gtactctcca
541 ataaagcacc ttgttgaaag aa
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## (2) INFORMATION FOR SEQ ID NO:2790:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2790

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1  ctgcagaggc tcaatcactg ttcatgtcag ccttgacctc cctggctcac gagatcctcc
61  catctcagcc tcttgagttg ctgggatcac aggtgcaatc caccaccaca cctggttaac
121 attttttttt ttagagatga ggtctctcta tgttgcccag gctgcacttc cttctgtctc
181 cctttatccc agcgtccgac tgaactgacg gctttgcttt ccccaaccag cccgtgaagc
241 tgggctgagt acaaagtggg gggatagagg gtcaagattg taagatctga aaactccaga
301 aaccatccct ttggttaaca gttgctaagg acaaatgcat aacatatttt ccagtgatcc
361 catgctggca aatcgtgagg gtcattcctg caacagacag attcaaggcc agccccaac
421 tcagccaaga gcaaaacaaa cactccagcc ttatctgggc aggggtgtgt ggagactgac
481 tataagacta tacctgagac tggctatctc agttcttttc tcaccttgac tgcaagatga
541 aactccttgt gctagctgtg ctgctcacag gtaggcaagt ctccccggt ccaccgcct
601 ttctctccca agtgagctaa gatctcactc ctctggaatg ggggccacac acagcaaaaa
661 gggatggcca gccccgcagt ctcaattcga ggttcccagt gggcttaagg gctcctctat
721 tggggttccc tcaaggtgtg cactttttca acctgcaagt ctgaactcag attgcctgag
781 ctgaagaaagc ttgcctttat ttctttttt ccagacaggg tcttgcctca taaccagggc
841 tggagttcag tggcatgac atagctcacc acagcttcca actcgtgggc tcaagtgate
901 ctcccacctt actcaactaa gtagttaggg caatctccca tttattttat tttattttaa
961 tttttatttt tattttactt tattttattt ttgagacggg gctcactctg tcgccaggct
1021 ggagtgccgt gggctgatct cagatcacta caacctccat ctctggttc aaataattct
1081 cttgcctcag cctctcaagt agctggactt gtagctctca agtagctggc acacaccacc
1141 atgcccagct aattttttgt gtgtttttt ttgtagagac aggttttcac catgttggcc
1201 aggtctgggt acctcccttt tagattctcc tcactcgtct ctattcttcc cttttctaaa
1261 tgcagtatcc agtttcctta cttatacact ttattattat tcttattatt attgagacag
1321 agtcttgctt tgtgcccagg gctggagtag agtggtgcga tctcggctca ctgcaagctc
1381 cactgtctgg gttcacgcca ttctcccgcc tcagcctccc cagtagctgg gactaaagcg
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1561 tggattacag gcatgagcca ccgtgccggg ccttatcaca tttattattt attgtttttc
1621 tctcccacta gttgtaagc tccatgaggt tagagattat tattattatt attattatta
1681 ttattattat tattattatt attatatctg ttactgctg tatctctagc tcctaggaca
1741 gagcctggca catagtaagt gctcaataaa tttcactgg ataaacagtg cagatagttt
1801 aaaactatct gacctaggga ggctgaggca ggagaatggc gtgaacccgg gaagcagagt
1861 ttgcagttag ctgaaatcgt gtcactgcac tccaacctgg gcaacagagc aagactccat
1921 ctcaaaaaaa aaaaaaaaac tatcaggcct agctgggtgg cacatgctct taatcctagc
1981 tcaggcggtg ggggtcccga agaagaaag aaagaagat atatatatat
2041 acacacacac aaagatataa actttatata tataaagttt tcattaaaaa aaaaaaaaac
2101 ctctaccac tttcacttta ccaggttcct ggggtccaac gtcttcagag gaggcagctg
2161 gcagggggtc gggaggcagc gtgggacccg agggagcagg aaggcagtg gtccccgggg
2221 tgctggcaga ccgatttgaa ctctggctat gtcttcttgc agtgcccgcc gccgacagcg
2281 gcatcagccc tcgggccgtg tggcagttcc gcaaatgat caagtgcgtg atccccggga
2341 gtgaccctt cttggaatac aacaactacg gctgctactg tggcttgggg ggctcaggca
2401 cccccgtgga tgaactggac aagtaagtga tccgcctgca ggaaaattgg agtgctgccc
2461 gggggcgggg tggggcacca cgccaaggat ctcacgagc atacaaagg gacttgcata
2521 tctgctaagg ataacatatt ttcacctctt gtcaaataaa catatatgtt ccaagaggac
2581 cctgtagcga acgcaccccg ttagagatgg aaacattgac cgacgtgcaa aacagtgggc
2641 gatgctgccc tccagtggca gaatgtagca acattaaaaa tcacagcacc tatccagctg
```

2701 tcatttttcta gcagtgggtg tcaactgcccc ttctggaata caggatttta ctgtattctt  
2761 gcaaccatgt taaaaatcgc ttccaggcca ggcgcggtgg ctcatgcctg taatcccagc  
2821 acttttggag gccgaggcgg gcggtacact tgaggtcagg agttcgagac cagcctggcc  
2881 aacatggtga aacctgtctt ctactaaaaa atacaaaaat tagccggaca tgggtggcag  
2941 cgectgtaac ccagctactt tgggagactg agttggaggt ttcatgagcc aaggtcgtgt  
3001 cactgctgtc cagcctgggt aacagagcaa ctctgtctca aaaaaaaaat atgctttcaa  
3061 taaatatatg ataaaaggac ttatatTTTT tcaagccata ggatcatttc tctgaaagca  
3121 tcttgccgaa gtcatcccca cctgttctct agagtgggca ggtgagggtc gacctattgc  
3181 tctgcaacta ctctatctc agctgtccct ccactttcc aggtgctgcc agacacatga  
3241 caactgctac gaccaggcca agaagctgga cagctgtaaa tttctgctgg acaaccgta  
3301 caccacacc tattcatact cgtgctctgg ctcggcaatc acctgtagca gtaggtttat  
3361 cccttctctg accta

## (2) INFORMATION FOR SEQ ID NO:2791:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2791

1 gccactccc accgccagct ggaacctgg ggactacgac gtccctcaaa ccttgcttct  
61 aggagataaa aagaacatcc agtcatggat aaaaatgagc tgggtcagaa ggccaaactg  
121 gccgagcagg ctgagcgata tgatgacatg gcagcctgca tgaagtctgt aactgagcaa  
181 ggagctgaat tatccaatga ggagaggaat ctctctcag ttgcttataa aaatgttgta  
241 ggagcccgtg ggtcatcttg gagggctcgtc tcaagtattg aacaaaagac ggaaggtgct  
301 gagaaaaaac agcagatggc tcgagaatac agagagaaaa ttgagacgga gctaagagat  
361 atctgcaatg atgtactgtc tcttttgaa aagttcttga tccccaatgc ttcacaagca  
421 gagagcaaag tcttctattt gaaaatgaaa ggagattact accgttactt ggctgaggtt  
481 gccgctgggt atgacaagaa agggattgtc gatcagtcac aacaagcata ccaagaagct  
541 tttgaaatca gcaaaaagga aatgcaacca acacatccta tcagactggg tctggccctt  
601 aacttctctg tgttctatta tgagattctg aactccccag agaaagcctg ctctcttga  
661 aagacagctt ttgatgaagc cattgctgaa cttgatacat taagtgaaga gtcatacaaa  
721 gacagcacgc taataatgca attactgaga gacaacttga cattgtggac atcgataacc  
781 caaggagacg aagctgaagc aggagaagga ggggaaaaat aaccggcctt ccaacttttg  
841 tctgcctcat tctaaaattt acacagtaga ccatttgtca tccatgctgt cccacaaata  
901 gttttttgtt tacgatttat gacaggttta tgttacttct atttgaattt ctatatttcc  
961 catgtggttt ttatgtttaa tattagggga gttagagccag ttaacattta tctgagtttc  
1021 tgttttcatc ttgaggtggc caatatgggg atgtggaatt tttatacaag ttataagtgt  
1081 ttggcatagt acttttggtt cattgtggct tcaaaagggc cagtgtaaaa ctgcttccat  
1141 gtctaagcaa agaaaactgc ctacatactg gtttgccttg gcggggaata aaagggatca  
1201 ttggttccag tcacaggtgt agtaattgtg ggtactttta ggtttggagc acttacaagg  
1261 ctgtggtaga atcatacccc atggatacca catattaaac catgtatata tgtggaatac  
1321 tcaatgtgta cacctttgac tacagctgca gaagtgttcc tttagacaaa gttgtgcccc  
1381 attttactct ggataagggc agaaacggtt cacattccat tatttgtaaa gttacctgct  
1441 gttagcttct attatttttg ctacactcat tttatttgta tttaaatgtt ttaggcaacc  
1501 taagaacaaa tgtaaaagta aagatgcagg aaaaatgaat tgcttggtat tcattacttc  
1561 atgtatatca agcacagcag taaaacaaaa acccatgtat ttaacttttt tttaggattt  
1621 ttgcttttgt gatttttttt tttttttttt gatacttgcc taacatgcat gtgctgtaaa  
1681 aatagttaac agggaaataa cttgagatga tggctagctt tgtttaatgt cttatgaaat  
1741 tttcatgaac aatccaagca taattgttaa gaacacgtgt attaaattca tgtaagtga  
1801 ataaaagttt tatgaatgga cttttcaact actttctcta cagcttttca tgtaaatag  
1861 tcttggttct gaaacttctc taaaggaaat tgtacattct ttgaaattta ttccttattc  
1921 cctcttgcca gctaattggc tcttaccagg tttaaacaca aaatttatca taacaaaaat  
1981 actactaata taactactgt ttccatgtcc catgatcccc tctcttcttc cccaccctga  
2041 aaaaaatgag ttcttatttt ttctgggaga gggggggatt gattagaaaa aaatgtagt  
2101 tgttccattt aaaatttttg catatggcat tttctaactt aggaagccac aatgttcttg  
2161 gcccatcatg acattgggta gcattaactg taagttttgt gcttccaaat cacttttttg  
2221 tttttaagaa tttcttgata ctcttatagc ctgccttcaa ttttgatcct ttattctttc  
2281 tatttctcag gtgcacaaga ttaccttctt gttttagcct tctgtcttgt caccaaccat  
2341 tcttacttgg tggccatgta cttggaaaaa ggccgcatga tctttctggc tccactcagt  
2401 gtctaaggca ccctgcttcc tttgcttgca tcccacagac tatttccctc atcctattta  
2461 ctgcagcaaa tctctcctta gttgatgaga ctgtgtttat ctccctttta aacctacct  
2521 atctgtaatg gtctgtcatt gtctgccttt aaaatccttc ctctttcttc ctctctatt  
2581 ctctaaataa tgatggggct aagttatacc caaagctcac tttacaaaat atttctcag  
2641 tactttgcag aaaacaccaa acaaaaatgc cattttaaaa aaggtgtatt ttttctttta  
2701 gaatgtaagc tcctcaagag cagggacaat gttttctgta tgttctattg tgcttagtac  
2761 actgtaaatg ctcaataaat attgatgatg ggaggcagtg agtcttgatg ataaggtga  
2821 gaaactgaaa tccc



## (2) INFORMATION FOR SEQ ID NO:2792:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2792

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1  tggtcacatc agtttctttt ctcaccttga ctgcaagatg aaactccttg tgctagctgt
61  gctgctcaca gtggccgcgg ccgacagcgg catcagccct cgggccgtgt ggcagttccg
121 caaaatgata aagtgcgtga tcccggggag tgacccttc ttggaatata acaactacgg
181 ctgctactgt ggcttggggg gctcaggcac ccccggtgat gaactggaca agtgctgcca
241 gacacatgac aactgctatg accaggccaa gaagctggac agctgtaaat ttctgctgga
301 caacccttac acccacacct attcatactc gtgctctggc tcggcaatca cctgtagcag
361 caaaaacaaa gagtgtgagg ccttcatttg caactgcgac cgcaacgctg ccatctgctt
421 ttcaaaagct ccatataaca aggcacacaa gaacctggac accaagaagt attgtcagag
481 ttgaatatca cctctcaaaa gcatcacctc tatctgcctc atctcacact gtactctcca
541 ataaagcacc ttgttgaag aa
1  ctgcagaggc tcaatcactg ttcattgcag ccttgacctc cctggctcac gagatcctcc
61  catctcagcc tcctgagttg ctgggatcac aggtgcaatc caccaccaca cctggttaac
121 attttttttt ttagagatga ggtctctcta tgttgccag gctgcacttc cttcttgtct
181 cccttatccc agcgtccgac tgaactgacg gctttgctt ccccaaccag cccgtgaagc
241 tgggctgagt acaaagtggg gggatgagg gtcaagattg taagatctga aaactccaga
301 aaccatccct ttggttaaca gttgctaagg acaaatgcat aacatatttt ccagtgtacc
361 catgctggca aatcgtgagg gctattcctg caacagacag attcaaggcc agcccaaac
421 tcagccaaga gcaaagcaaa cactccagcc ttatctgggc aggggtgtgt ggagactgac
481 tataagacta tacttgagac tggctcatctc agttcttttc tcaccttgac tgcaagatga
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601 ttctctccca agtgagctaa gatctcactc ctctggaatg ggggccacac acagcaaaaa
661 gggatggcca gccccgcagt ctcaattcga ggttcccagt gggcttaagg gctcctctat
721 tggggttccc tcaaggctgg cactttttca acctgcaagt ctgaactcag attgctgag
781 ctaagaaagc ttgcctttat tttctttttt ccagacaggg tcttgctcta taaccaggc
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901 ctcccacctt actcaactaa gtagttaggc caatctccca tttattttat tttattttaa
961 tttttatttt tattttactt tattttattt ttgagacggg gctcactctg tcgccaggct
1021 ggagtgcggg gggctgatct cagatcacta caacctccat ctctggttc aaataattct
1081 ctgtcctcag cctctcaagt agctggactt gtagctctca agtagctggc acacaccacc
1141 atgcccagct aattttttgt gtgttttttt tggtagagac aggttttcac catgttggc
1201 aggtgggtg acctcccttt tagattctcc tcatcctgct ctattcttcc cctttctaaa
1261 tgcaagtatc agtttcccta cttatacact ttattattat tcttattatt attgagacag
1321 agtcttgctt tgtgcccagg gctggagtac agtggtgcca tctcggctca ctgcaagctc
1381 cacctgctgg gttcacgcca ttctcccgc tcagcctccc cagtagctgg gactaaagcg
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1681 ttattattat tattattatt attatatctg ttcactgctg tatctctagc tcctaggaca
1741 gagcctggca catagtaagt gctcaataaa tattcactgg ataaacagtg cagatagttt
1801 aaaactatct gacctaggga ggtgaggga ggagaatggc gtgaacccgg gaagcagagt
1861 ttgcagttag ctgaaatcgt gtcactgcac tccaacctgg gcaacagagc aagactccat
1921 ctcaaaaaaa aaaaaaaac tatcaggcct agctgggtgg cacatgctg taatcttagc
1981 tgaggcggta ggggtccaga agaagaagaa gaagaaaaag aagaagatat atatatatat
2041 acacacacac aaagatataa actttatata tataaagttt tcattaaaaa aaaaaaaac
2101 ctctaccacac tttcacttta ccaggttcct gggccaacg gtcttcagag gaggcagctg
2161 gcaggggtca gggaggcagc gtgggacccg agggagcagg aaggcagtg gtccccgggg
2221 tgctggcaga ccgatttgaa ctctggctat gctctcttgc agtgcccgcc gccgacagcg
2281 gcatcagccc tcgggcgtgt ttgcagttcc gcaaaatgat caagtgcgtg atccccggga
2341 gtgaccctt cttggaatac aacaactacg gctgctactg tggcttgggg ggctcaggca
2401 ccccggtgga tgaactggac aagtaagtga tccgcctgca ggaaaaattg agtgctgcc
2461 gggggcgggg tggggcacca cgcaaggat ctacagaggc atacaaaggg gacttgcata
2521 tctgctaagg ataacatatt ttcacctctt gtcaataaaa catatatgtt ccaagaggac
2581 cctgtagcga acgcaccccg tttagagatg aaacattgac cgacgtgcaa aacagtgggc
2641 gatgtgccc tccagtggca gaattgagca acattaaaca tcacagcacc tatccacgtg
2701 tcattttcta gcagtgggtg tcaactgccc tctggaata caggatttta ctgtattctt
2761 gcaaccatgt taaaaatcgc tttcaggcca ggcgcgggtg ctcatgctg taatccagc
2821 actttggggg gccgaggcgg gcggatcact tgaggtcagg agttcgagac cagcctggcc
2881 aacatggtga aaccctgtct ctactaaaaa atacaaaaat tagccggaca tgggtggcag
2941 cgctgtaac ccagctact tgggagactg agttggaggt ttcatgagcc aagtgctgt
3001 cactgctgtc cagcctgggt aacagagcaa ctctgtctca aaaaaaaaa atgctttcaa
3061 taaatatatg ataaaaggac ttattttttt tcaagccata ggatcatttc tcctgaagca
```



3121 tcttggcgaa gtcattccca cctgttctctg agagtgggca ggtgagggtt gacctattgc  
3181 tctgcactta ctcctatctc agctgtccct cccactttcc aggtgctgcc agacacatga  
3241 caactgctac gaccaggcca agaagctgga cagctgtaa tttctgctgg acaaccgta  
3301 caccacacac tattcatact cgtgctctgg ctggaacac acctgtagca gttaggttat  
3361 cccttctctg accta  
1 gccactccc accgccagct ggaaccctgg ggactacgac gtccctcaaa ccttgcttct  
61 aggagataaa aagaacatcc agtcatggat aaaaatgagc tgggttcagaa ggccaaactg  
121 gccgagcagc ctgagcgata tgatgacatg gcagcctgca tgaagtctgt aactgagcaa  
181 ggagctgaat tatccaatga ggagaggaat cttctctcag ttgcttataa aaatgttgta  
241 ggagccccta ggtcatcttg gagggtcgtc tcaagtattg aacaaaagac ggaaggtgct  
301 gagaaaaaac agcagatggc tcgagaatac agagagaaaa ttgagacgga gctaagagat  
361 atctgcaatg atgtactgtc tcttttgaa aagttcttga tcccaaatgc ttcacaagca  
421 gagagcaaa gcttctattt gaaaatgaaa ggagattact accgttactt ggctgaggtt  
481 gccgtggtg atgacaagaa agggattgtc gatcagtcac aacaagcata ccaagaagct  
541 tttgaaatca gcaaaaagga aatgcaacca acacatccta tcagactggg tctggccctt  
601 aacttctctg tgttctatta tgagattctg aactcccag agaaagcctg ctctcttgca  
661 aagacagctt ttgatgaagc cattgctgaa cttgatacat taagtgaaga gtcatacaaa  
721 gacagcacgc taataatgca attactgaga gacaacttga catttgaggc atcgattacc  
781 caaggagacg aagctgaagc aggagaagga ggggaaaatt aaccggcctt ccaacttttg  
841 tctgcctcat tctaaaattt acacagtaga ccatttgcata tccatgctgt cccacaaaaa  
901 gttttttgtt tacgatttat gacaggttta tgttacttct atttgaattt ctatatttcc  
961 catgtggttt ttatgtttta tattagggga gtagagccag ttaacattta gggagtattc  
1021 tgttttctac ttgaggtggc caatatgggg atgtggaatt tttatacaag ttataagtgt  
1081 ttggcatagt acttttggtt cattgtggct tcaaaagggc cagtgtaaaa ctgcttccat  
1141 gtctaagcaa agaaaactgc ctacatactg gtttgcctg gcggggaata aaagggatca  
1201 ttggttccag tcacaggtgt agtaatttgc ggtactttaa ggtttggagc acttacaagg  
1261 ctgtggtaga atcatacccc atgataacca catattaaac catgtatatc tgtggaatac  
1321 tcaatgtgta cacctttgac tacagctgca gaagtgttcc tttagacaaa gttgtgacct  
1381 attttactct ggataagggc agaaacgggt cacattccat tatttgtaa gttacctgct  
1441 gttagcttct attatttttg ctacactcat tttatttgta tttaaatgtt ttaggcaacc  
1501 taagaacaaa tgtaaaagta aagatgcagg aaaaatgaat tgcttgggtat tcattacttc  
1561 atgtatatca agcacagcag taaaacaaaa acccatgtat ttaacttttt tttaggattt  
1621 ttgcttttgt gatttttttt tttttttttt gatacttggc taacatgcac gtgctgtaaa  
1681 aatagttaac agggaaataa cttgagatga tggctagctt tgtttaatgt cttatgaaat  
1741 tttcatgaac aatccaagca taattgttaa gaacacgtgt attaaattca tgtaagtgga  
1801 ataaaagttt tatgaatgga cttttcaact actttctcta cagcttttca tgtaaatag  
1861 tcttggttct gaaacttctc taaaggaaat tgtacattct ttgaaattta ttccttattc  
1921 cctcttgcca gctaattggc tcttaccag tttaaacaca aaatttatca taacaaaaat  
1981 actactaata taactactgt ttccatgtcc catgatcccc tctcttccc cccaccctga  
2041 aaaaaatgag ttctattttt ttctgggaga gggggggatt gattagaaaa aatgtagtgt  
2101 tgttccattt aaaaatttgg catatggcat tttctaactt aggaagccac aatgttcttg  
2161 gcccatcatg acattgggta gcattaaact taagttttgt gcttccaaat cacttttttg  
2221 tttttaagaa tttcttgata ctcttatagc ctgccttcaa ttttgatcct ttattcttct  
2281 tatttgtcag gtgcacaaga ttaccttctt gttttagcct tctgtcttgt caccaaccat  
2341 tcttacttgg tggccatgta cttggaaaaa ggccgcatga tctttctggc tccactcagt  
2401 gtcctaaggc ccctgcttcc tttgcttgca tcccacagac tatttccctc atctatttta  
2461 ctgcagcaaa tctctcctta gttgatgaga ctgtgtttat ctccctttaa aaccctacct  
2521 atcctgaatg gtctgtcatt gtctgccttt aaaatccttc ctctttcttc ctctctatt  
2581 ctctaaataa tgatggggct aagttatacc caaagctcac tttacaaaat atttctcag  
2641 tactttgcag aaaaacacaa acaaaaatgc cattttaaaa aaggtgtatt ttttcttcta  
2701 gaatgtaagc tctcaagag cagggaacat gttttctgta tgttctattg tgcctagtac  
2761 actgtaaatg ctcaataaat attgatgatg ggaggcagtg agtcttgatg ataagggtga  
2821 gaaactgaaa tccc

## (2) INFORMATION FOR SEQ ID NO:2793:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2793

1 gctgtgaac ctgcgcgcca tgcgcaacct ctatgcgatg caccggcggc tgcagcggca  
61 cccgcgtccc tgcaccaggg actgtgccga gccgcgcgcg gacgggaggg aagcgtcccc  
121 tcagcccctg gagagctgg atcacctcct gctgctggcg ctgatgaccg tgctctcac  
181 tatgtgttct ctgcccgtaa tttatcgcgc ttactatgga gcatttaagg atgtcaagga  
241 gaaaaacagg acctctgaag aagcagaaga cctccgagcc ttgcgatttc tatctgtgat  
301 ttcaattgtg gacccttggg tttttatcat tttcagatct ccagtatttc ggatattttt  
361 tcacaagatt ttcattagac ctcttaggta caggagccgg tgcagcaatt ccactaacat  
421 ggaatccagt ctgtgacagt gtttttctact ctgtggttaag ctgaggaata tgtcacattt

481 tcagtcacaaag aacca

(2) INFORMATION FOR SEQ ID NO:2794:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2794

1 gaattctggc tattttctc ctgccgttcc gactcggcac cagagtctgt ctctactgag  
61 aacgcagcgc gtcagggcgc agctcttcac tggcctgctc cgcgctcttc aatgccagcg  
121 ccaggcgctc accctgcaga gcgtcccgcc tctcaaagag ggggtgtgacc cgcgagttaa  
181 gataggaggt tcttgccgtg gggaacaccc cgcgcctctc ggagcttttt ctgtggcgca  
241 gcttctccgc ccgagccgcg cgcggagctg ccgggggctc cttagcaccg gggcgccggg  
301 gccctcgccc ttccgcagcc ttactccag ccctctgctc ccgcacgcca tgaagtgcgc  
361 gttctaccgc tgccagaaca ccacctctgt ggaaaaaggc aactcggcgg tgatggcgcg  
421 ggtgctcttc agcaccggcc tcttgggcaa cctgctggcc ctggggctgc tggcgcgctc  
481 ggggctgggg tgggtctcgc ggcgtccact gcgcccgtg ccctcggctt tctacatgct  
541 ggtgtgtggc ctgacggtca ccgacttgcg gggcaagtgc ctctaagcc cgggtgtgct  
601 ggtgccttac gtcagaacc ggagtctgcg ggtgcttgcg cccgcattgg acaactcgtt  
661 gtgccaagcc ttgccttctt tcatgtcctt ctttgggctc tcctcgacac tgaactcct  
721 ggccatggca ctggagtgtt ggctctccct agggcaccct ttcttctacc gacggcacat  
781 caccctgcgc ctggggcgac tgggtggccc ggtggtgagc gccttctccc tggctttctg  
841 cgcgtacctt tcatgggctc tcgggaagtt cgtgcagtac tgccccggca cctggtgctt  
901 tatccagatg gtccacgagg agggctcgtt gtcggtgctg ggggtactctg tgcctactc  
961 cagcctcatg gcgctgctgg tctcgcacac cgtgctgtgc aacctcggcg ccatgcgcaa  
1021 cctctatgcg atgcaccggc ggctgcagcg gcacccgcgc tctcgacca gggactgtgc  
1081 cgagccgcgc gcggacggga gggaagcgtc ccctcagccc ctggaggagc tggatcacct  
1141 cctgctgctg gcgctgatga ccgtgctctt cactatgtgt tctctgcccg taattgtgag  
1201 tccccgggcc ccgagg

(2) INFORMATION FOR SEQ ID NO:2795:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2795

1 gggccgcgct cggcgcgctg ggtgcgggaa gggggctctg gatttcgggtc cctccccctt  
61 ttctctctgag tctcggaacg ctccagctct cagaccctct tcctcccagg taaaggccgg  
121 gagaggaggg cgcattctct ttccaggcac cccaccatgg gcaatgcctc caatgactcc  
181 cagtctgagg actgcgagac gcgacagtgg cttccccagc gcgaaagccc agccatcagc  
241 tccgtcatgt tctcgcccg ggtgctgggg aacctcatag cactggcgct gctggcgcg  
301 cgctggcggg gggacgtggg gtgcagcgcc ggccgcagga gctccctctc cttgttccac  
361 gtgctgggtg ccgagctggg gttcaccgac ctgctcgga cctgcctcat cagcccagtg  
421 gtactggctt cgtacgcgcg gaaccagacc ctgggtggac tggcgccgag gagccgcg  
481 tgcacctact tcgctttcgc catgaccttc ttcagcctgg ccacgatgct catgctctt  
541 gccatggccc tggagcgcta cctctcgatc gggcaccctt acttctacca gcgcgcgctc  
601 tcggcctccg ggggctggc cgtgctgcct gtcattctat cagtctccct gctcttctgc  
661 tcgctgcccg tgctggacta tgggcagtag gtccagtact gccccgggac ctgggtgctt  
721 atccggcacg ggccgaccgc ttacctgcag ctgtacgcca ccctgctgct gcttctcatt  
781 gtctcggtgc tcgcctgcaa cttcagtgct attctcaacc tcacccgcat gcaccgcga  
841 agccggagaa gccgctgcgg accttccctg ggcagtggcc gggcgggccc cggggcccgc  
901 aggagagggg aaaggggtgc catggcggag gagacggacc acctcattct cctggctatc  
961 atgaccatca ccttcgccgt ctgctccttg cctttcacga tttttgcata tatgaatgaa  
1021 acctcttccc gaaaggaaaa atgggacctc caagctctta ggtttttatc aattaattca  
1081 ataattgacc cttgggtctt tgccatcctt aggcctcctg ttctgagact aatgcgttca  
1141 gtctctgtt gtcggatttc attaagaaca caagatgcaa cacaaacttc ctgttctaca  
1201 cagtcagatg ccagtaaaaca ggctgacctt tgaggtcagt agtttaaaag ttcttagtta  
1261 tatagcatct ggaagatcat tttgaaattg ttccctggag aaatgaaaac agtgtgtaaa  
1321 caaaatgaag ctgccctaata aaaaaggagt atacaaacat ttaagctgtg gtcaaggcta  
1381 cagatgtgct gacaaggcac ttcatgtaaa gtgtcagaag gagctacaaa acctaccctc  
1441 aatgagcatg gtacttgccc tttggaggaa caatcgctg cattgaagat ccagctgctt  
1501 attgatttaa gctttcctgt tgaatgacaa agtatgtggt tttgtaattt gtttgaaacc  
1561 ccaaacagtg actgtacttt ctattttaat cttgctacta ccgttatata catatagtgt  
1621 acagccagac cagattaaac ttcatatgta atctctagga agtcaatatg tggaaagcaac  
1681 caagcctgct gtcttgtgat cacttagcga accttttatt tgaacaatga agttgaaaat  
1741 cataggcacc ttttactgtg atgtttgtgt atgtgggagt actctcatca ctacagtatt  
1801 actcttaciaa gagtggactc agtgggttaa catcagtttt gtttactcat cctccaggaa

1861 ctgcagggtca agttgtcagg ttattttattt tataatgtcc atatgctaag agtgatcaag  
1921 aagacttttag gaatggttct ctcaacaaga aataatagaa atgtctcaag gcagttaatt  
1981 ctcatataata ctcttattat cctattttctg ggggaggatg tacgtggcca tgtatgaagc  
2041 caaatatttag gcttaaaaaac tgaaaaatct gggttcattct tcagatatac tggaaccctt  
2101 ttaaagttga tattggggcc atgagtaaaa tagattttat aagatgactg tgtgtacca  
2161 aaattcatct gtctatatatt tatttagggg aacatgggtt gactcatctt atatgggaaa  
2221 ccatgtagca gtgagtcata tcttaataata tttctaaatg tttggcatgt aaatgtaaac  
2281 tcagcatcaa aatatttcag tgaatttgca ctgtttaatc atagtactg tgtaaacca  
2341 tctgaaatgt taaaaaata aactataaaa ca

## (2) INFORMATION FOR SEQ ID NO:2796:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2796

1 agagaggaag gcgtggctcc ctccggggcc agtgagccct ggccgcccgc cgcccgcggt  
61 cccagcagcg gtagtagggc gcggtgcgc cccgaccat ggggggcagc ccagccccag  
121 ccgcggtaaa cgccgacctc cgccgcccgc cgccgcccgc ctgccccctc ccgctgcggc  
181 tctctggacg ccatccccctc ctacacctga agccaacatg aaggagaccg ggggctacgg  
241 aggggatgac cccttctgca cccgcctcaa ccactctac acaggcatgt gggcgcccga  
301 gcgttccgccc gaggcgcggg gcaacctcac gcgccctcca gggctctggc aggattgcgg  
361 atcgggtgtcc gtggccttcc cgatcaccat gctgctcact gggttcgtgg gcaacgcaact  
421 ggccatgctg ctggtgtcgc gcagctaccg gcgcggggag agcaagcgca agaagtcctt  
481 cctgctgtgc atcggtggc tggcgctcac cgacctggc gggcagcttc tcaccacccc  
541 ggtcgtcatc gtcgtgtacc tgtccaagca gcgttgggag cacatcgacc cgtcggggcg  
601 gctctgcacc ttttctgggc tgaccatgac tgtttctggg ctctcctcgt tgttcacgc  
661 cagcgccatg gccgtcgagc gggcgctggc catcagggcg ccgactggt atgcgagcca  
721 catgaagacg cgtgccacc cgctgtgct gctcgccgtg tggctggccg tgcctgcctt  
781 cgccctgctg ccggtgctgg gcgtgggcca gtacaccgtc cagtggcccg ggacgtggtg  
841 tttcatcagc accgggagc ggggcaacgg gactagctct tcgcataact ggggcaacct  
901 tttcttcgccc tctgcctttg ccttctctgg gctcttggcg ctgacagtca ctttttctg  
961 caacctggcc accattaagg ccctggtgtc ccgctgcccg gccaaaggcca cggcatctca  
1021 gtccagtgcc cagtggggcc gcatcacgac cgagacggcc attcagctta tggggatcat  
1081 gtgcgtgctg tcgggtctgt ggtctccgct cctgataatg atgttgaaaa tgatcttcaa  
1141 tcagacatca gttgagcact gcaagacaca cagggagaag cagaagaagt gcaacttctt  
1201 cttaatatgct gttcgctgg cttcactgaa ccagatcttg gatccttggg tttacctgct  
1261 gttaagaaa atccttcttc gaaagtttt ccaggtagca aatgctgtct ccagctgctc  
1321 taatgatgga cagaaaaggc agcctatctc attatctaata gaaataatac agacagaagc  
1381 atgaaagaaa acacttaact tgcatgtgca cagcttcttg taacaaatat cgctaaacct  
1441 tactgtgaat ttaggcatct ctggcatgcc actgtttatg cattgaagtg gaatttttgg  
1501 tataaagcta aatggtctta gaagcataga aaatccctat gtgccaaaag tagtgaaca  
1561 caaacaagg aaaatatatt aataacagtc tagtggtttt gttgagtctg ccattcgtag  
1621 ctgaatatgt gattaattat gtgatgaaaa ctttttttat aaatgatctt ggtctattgg  
1681 gg

## (2) INFORMATION FOR SEQ ID NO:2797:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2797

1 cccggggccag tgagccctgg cgccgcccgc gcccggtcc cagcagcgga gtagggcgcc  
61 ggctgcgccc cgcaccatgg gggcagccc agccccagcc gcggtaaacg ccgacctccg  
121 ccgcccggcg cgccgctct gcccctccc gctgcggctc tctggagccc atccccctct  
181 cacctcgaag ccaacatgaa ggagaccg ggtacggag gggatgcccc ctctgcacc  
241 cgctcaacc actctacac aggcattggt gcgcccagc gttccgcga ggcgccccg  
301 aacctcacgc gccctcagg gtctggcgag gattgaggat cggtgtccgt ggccttccc  
361 atcaccatgc tgctcactgg tttcgtgggc aacgcactgg ccatgctgct cgtgtcgcgc  
421 agctaccggc gccgggagc caagcgcaag aagtccttcc tgctgtgcat cggctggctg  
481 gcgctcaccg acctggtcgg gcagcttctc accaaccggc tcgtcatcgt cgtgtacctg  
541 tccaagcagc gttgggagca catcgaccgc tcggggcggc tctgcacctt tttcgggctg  
601 accatgactg ttttcgggct ctctcgttg ttcacgcca gcgccatggc cgtcagcgcc  
661 gcgctggcca tcaggcgcc gactggtat gcgagccaca tgaagacgc tgccacccgc  
721 gctgtgctgc tcggcgtgtg gctggccgtg ctgccttcg ccctgctgcc ggtcttggc  
781 gtggggccagt acaccgtcca gtggccggg acgtggtgct tcatcagcac cggcgaggg  
841 ggcaacggga ctagctcttc gcataactgg ggcaacctt tcttcgcctc tgcctttgccc

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901 ttctctggggc tcttggcgct gacagtcacc ttttcttgca acctggccac cattaaggcc
961 ctgggtgtccc gctgcccggc caaggccacg gcatctcagt ccagtgccca gtggggccgc
1021 atcacgaccg agacggccat tcagcttatg gggatcatgt gcgtgctgtc ggtctgctgg
1081 tctccgctcc tgataatgat gttgaaaatg atcttcaatc agacatcagt tgagcactgc
1141 aagacacaca cggagaagca gaaagaatgc aacttcttct taatagctgt tcgcttggct
1201 tcaactgaacc agatcttggg tccttgggtt tacctgctgt taagaaagat ccttcttcga
1261 aagttttgccc agatcaggta ccacacaaac aactatgcat ccagctccac ctccttacc
1321 tgccagtggt cctcaacctt gatgtggagc gaccatttgg aaagataatg aaagaacgga
1381 gttggacatt ttattgcaat tcctgcttcc ctgaatttgc atatttcttc ccacctgaga
1441 aggataatta tatattttaa tttggattat ttcttcattt ttatcttttt attttaatga
1501 ttgttttgtc agtaataccc atggagatca actttattat tataatccat gcctctgaat
1561 attagattgg tttcttggat gggattttga atatgcattt aagaagtggg gaagaatttc
1621 acagatgatg attggaggaa aagtgatgaa aagaaagacc tgtgttccag gagttttctc
1681 caacttcaaa cctttacgtg aatcttaacc aaagtggaca tctttacatt tcatgatagc
1741 ttgcttttgc aatatgagtt tgaaaaatca gtataagctt atgatggtga aaagtcaaca
1801 tattgagagt gataattcaa ttaataggat atgaacttaa cgatataaaa gcaaatgagg
1861 gcaggagggg

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## (2) INFORMATION FOR SEQ ID NO:2798:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2798

```

1 agagaggaag gcgtggctcc ctcccggggc agtgagccct ggccgcccgc cggccgcggt
61 cccagcagcg gactagggcg gcggtgctgc cccgcaccat ggggggcagc ccagccccag
121 ccgcggtaaa cgccgacctc cgccgcccgc cgccgcccgt ctgccccctc ccgctgcccgc
181 tctctggacg ccatccccct ctcacctcga agccaacatg aaggagacct ggggctacgg
241 aggggatgcc cccttctgca cccgcctcaa ccactcctac acaggcatgt gggcgcccga
301 gcgttccgcc gaggcgcggg gcaacctcac gcgcctcca gggctctggc aggattgcgg
361 atcgggtgctc gtggccttcc cgatcaccat gctgctcact ggttctctgg gcaacgcact
421 ggccatgctg ctctgtctgc gcagctaccg gcgcggggag agcaagcgca agaagtcctt
481 cctgctgtgc atcggctggc tggcgctcac cgacctggc gggcagcttc tcaccacccc
541 ggtcgctatc gtcgtgtacc tgtccaagca gcgttgggag cacatcgacc cgtcggggcg
601 gctctgcacc ttttctgggc tgaccatgac tgtttctggg ctctcctcgt tgttcatcgc
661 cagcgccatg gccgtcgagc gggcgctggc catcaggggc ccgcaactgt atgcgagcca
721 catgaagacg cgtgccaccc gcgtgtgct gctcggcggt tggctggccg tgcctgcctt
781 cgccctgctg ccggtgctgg gcgtgggcca gtacaccgtc cagtggcccc ggacgtggtg
841 cttcatcagc accgggagag ggggcaacgg gactagctct tcgcataact ggggcaacct
901 tttcttcgcc tctgcctttg ctttcttggg gctcttggcg ctgacagtca ccttttctg
961 caacctggcc accattaagg ccttgggtgc ccgctgcccg gccaaaggcca cggcatctca
1021 gtccagtgcc cagtggggcc gcatcacgac cgagacggcc attcagctta tggggatcat
1081 gtgcgtgctg tcggtctgct ggtctccgct cctgataatg atgttgaata tgatcttcaa
1141 tcagacatca gttgagcact gcaagacaca cacggagaag cagaaagaat gcaacttctt
1201 cttaataagct gttcgcttgg cttcactgaa ccagatcttg gatccttggg tttacctgct
1261 gtttaagaaag atccttcttc gaaagttttg ccaggtagca aatgctgtct ccagctgctc
1321 taatgatgga cagaaagggc agcctatctc attatctaata gaaataatac agacagaagc
1381 atgaaagaaa acacttaact tgcattgtga cagcttctgg taacaaatat cgctaaacct
1441 tactgtgaat ttaggcattc ctggcatgcc actgtttatg cattgaagtg gaatttttgg
1501 tataaagcta aatggtctta gaagcataga aaatccctat gtgcaaaaag tagtgaacaa
1561 caaacaaggg aaaaatatatt aataacagtc tagtggtttt gttgagctgt ccattcgtag
1621 ctgaatatgt gattaattat gtgatgaaaa ctttttttat aaatgatctt ggtctattgg
1681 gg

```

## (2) INFORMATION FOR SEQ ID NO:2799:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2799

```

1 agagaggaag gcgtggctcc ctcccggggc agtgagccct ggccgcccgc cggccgcggt
61 cccagcagcg gactagggcg gcggtgctgc cccgcaccat ggggggcagc ccagccccag
121 ccgcggtaaa cgccgacctc cgccgcccgc cgccgcccgt ctgccccctc ccgctgcccgc
181 tctctggacg ccatccccct ctcacctcga agccaacatg aaggagacct ggggctacgg
241 aggggatgcc cccttctgca cccgcctcaa ccactcctac acaggcatgt gggcgcccga
301 gcgttccgcc gaggcgcggg gcaacctcac gcgcctcca gggctctggc aggattgcgg
361 atcgggtgctc gtggccttcc cgatcaccat gctgctcact ggttctctgg gcaacgcact

```

```

421 ggccatgctg ctctgtgtgc gcagctaccg gcgcccggag agcaagcgca agaagtcctt
481 cctgctgtgc atcggtgtgc tggcgctcac cgacctgtc gggcagcttc tcaccacccc
541 ggctgtcatc gtcgtgtacc tgtccaagca gcgttgggag cacatcgacc cgtcggggcg
601 gctctgcacc ttttctgggc tgaccatgac tgttttcggg ctctcctcgt tgttcacgc
661 cagcgccatg gccgtcgagc gggcgctggc catcaggcg cgcactggg atgcgagcca
721 catgaagacg cgtgccaccc gcgtgtgtct gctcggcggt tggctggccg tgctcgctt
781 cgccctgtct ccgtgtgtgg gcgtgggcca gtacaccgtc cagtggcccg ggacgtgtg
841 cttcatcagc accgggagag ggggcaacgg gactagctct tcgcataact ggggcaacct
901 tttcttcgcc tctgcctttg ccttcctggg gctcttggcg ctgacagtca ccttttcctg
961 caacctggcc accattaagg ccctgtgtgc ccgctgcgg gccaaaggcca cggcatctca
1021 gtccagtgcc cagtggggcc gcacacgac cgagacggcc attcagctta tggggatcat
1081 gtgcgtgtgt tcggtctgtc ggtctccgct cctgataatg atgttgaaaa tgatcttcaa
1141 tcagacatca gttgagcact gcaagacaga caggagaaag cagaagaat gcaacttct
1201 cttaatagct gttcgctgg cttactgaa ccagatcttg gatccttggg tttacctgct
1261 gttaagaaag atccttcttc gaaagttttg ccaggaggaa ttttggggaa attaaaacct
1321 gcctttctgc caggatcaca tcaactggaag ctccatgact ctctttttgt aaaagaaa

```

## (2) INFORMATION FOR SEQ ID NO:2800:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2800

```

1 gtgcgcggag gggacgagcg gctggaccac agccggcgcc cgatcaggat ctccgcgctg
61 ggatcggtgg aacttgaggc agcggcgggc cggggcgcca tggcacaccg agcggctccg
121 tcttctgctc ctacagagagc cgggctggcg gcctgggatg acaagatgtc tggactgcaa
181 tctgcacag ttttgagagg gagatgactt gagtggttgg cttttatctc cacaacaatg
241 tccatgaaca attccaaaca gctagtgtct cctgcagctg cgcttcttcc aaacacaacc
301 tgccagacgg aaaaccggct ttccgtattt ttttcagtaa tcttcagtae agtgggaatc
361 ttgtcaaaaca gccttgccat cgccattctc atgaaggcat atcagagatt tagacagaag
421 tccaaggcat cgtttctgct tttggccagc ggcctggtaa tcaactgatt ctttggccat
481 ctcatcaatg gagccatagc agtattttgt tatgcttctg ataaagaatg gatccgcttt
541 gaccaatcaa atgtcctttg cagtattttt ggtatctgca tgggtgtttc tgggtctgtc
601 ccacttcttc taggcagtgt gatggccatt gagcgggtga ttggagtcac aaaaccaata
661 tttcttcta cgaaaattac atccaaacat gtgaaaatga tgttaagtgg tgtgtctgtg
721 tttgctgttt tcatagcttt cgtgcccatt cttggacatc gagactataa aattcaggcg
781 tcgaggacct ggtgtttcta caacacagaa gacatcaaag actgggaaga tagattttat
841 cttctacttt tttcttttct ggggctctta gcccttgggt tttcattggt gtgcaatgca
901 atcacaggaa ttactctttt aagagttaaa tttaaaagtc agcagcacag acaaggcaga
961 tctcatcatt tggaaatggt aatccagctc ctggcgataa tgtgtgtctc ctgtatttgt
1021 tggagcccat ttctggttac aatggccaac attggaataa atggaaatca ttctctggaa
1081 acctgtgaaa caacactttt tgctctccga atggcaacat ggaatcaaat cttagatcct
1141 tgggtatata ttcttctacg aaaggctgtc cttaagaatc tctataagct tgccagtcaa
1201 tgctgtggag tgcatgtcat cagcttacat atttgggagc ttagttccat taaaaattcc
1261 ttaaagggtg ctgctatttc tgagtcacca gttgcagaga aatcagcaag cacctagctt
1321 aataggacag taaatctgtg tggggctaga acaaaaatta agacatgttt ggcattattt
1381 cagttagtta aatacctgta gcctaactgg aaaattcagg ctctcatcat tagtttgaag
1441 atactattgt cagattcagg ttttgaaatt tgtcaaataa acaggataac tgtacatttt
1501 caacttggtt ttgccaatgg gaggtagaca caataaaata atgccatggg agtcacactg
1561 aaagcaattt tgagcttatt tgtcttattt atgctttgag tgaatcatct gttgaggtct
1621 aatgcctcta cttggcctat ttgccagaga acatcttaac gcagcctgca tagtgaaatg
1681 gttattttga gatcacgct ctgtagctaa cccttataaa ctaggctcag taaaataaag
1741 cactcttatt ttttgatctg gcctattttg cccctcattg tgtagcctca attaacacat
1801 gcattggtcat gacaccaga attcatgatg gtttgttata acaacctctg catattccag
1861 gtctggcaga caggtgtcct gacctgcaa tctatctag aatggggcca ttcttgtcac
1921 atttgacaaa taggactgcc tacatttatt attatgaagg tctgattgtt ttggaagtgt
1981 ttttctcatg catagattag caattttcaa ataattattt tttctctgaa aattttgtgt
2041 gtgattgcac aataaataat ttttagagaa acaaaggctc tttctcagca cattgatggg
2101 caactagaat tacagcagtt tcaaactcta ccatggataa tgcaaacaaa ccgaagctac
2161 atgccaatga taggtgcaaa gaattattggc aaaaggtgct ttaccttgag ccattatttg
2221 tgtcagagaa caaaagaaac agaataataa tataaattca aagactatct gcagctagtg
2281 tgtttcttct ttacacacat atacacagc acatcagaaa attctgttga aggcaggttc
2341 attaaatttg taagatggca tattctaaag cctgtgtctc cagtactaag aggggaagac
2401 tggcaatttg ccaagcactt ggggattatt ataacaatta actaggagat caagagataa
2461 taatctctcc ccaattttc caataataat tgag

```

## (2) INFORMATION FOR SEQ ID NO:2801:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2801

```
1 ggcacagacg cacgggacag gagagcctgg gcaagactgg agagcccaga cctgggatgg
61 cggattcgtg caggaacctc acctacgtgc ggggctcgtt ggggcccggc accagcacc
121 tgatgttcgt ggccgggtgt gtgggcaacg ggctggccct gggcatcctg agcgacggc
181 gaccggcgcg cccctcggcc ttcgcggtgc tggtcaccgg actggcgggc accgacctgc
241 tgggcaccag cttcctgagc ccggccgtgt tcgtggccta tgcgcgaac agctccctgc
301 tgggcctggc ccgaggcggc ccgcccgtgt gcgatgcctt cgccttcgcc atgaccttct
361 tcggcctggc gtccatgttc atctctttt ccatggcgtt ggagcgctgc ctggcgctga
421 gccaccccta cctctacgcg cagctggacg ggcccgcgtg cggccgcctg gcgctgccag
481 ccatctacgc cttctgcgtc ctctctgtcg cgtgcccctt gctgggcctg ggccaacacc
541 agcagtactg ccccggcagc tgggtgttcc tcgcgtatgc ctggggccag ccggggcgcg
601 ccgcttctc gctggcctac gccggcctgg tggccctgct ggtggctgcc atcttctct
661 gcaacggctc ggtcaccctc agcctctgcc gcattgacct ccagcagaag cgccaccagg
721 gctctctggg tccacggccg cgacccggag aggacgaggt ggaccacctg atcctgctgg
781 cctctatgac agtgggtcat gccgtgtgct ccctgcctct cacgatccgc tgcctcacc
841 aggctgtcgc ccctgacagc agcagtgaag tgggggacct ccttgccctc cgcttctacg
901 ccttcaacct cactcctggc cctgggtctt tcactctttt ccgcaaggct gtcttccagc
961 gactcaagct ctgggtctgc tgcctgtgcc tcgggcctgc ccacggagac tcgcagacac
1021 ccttttccca gctcgcctcc gggaggaggg acccaagggc cccctctgct cctgtgggaa
1081 aggaggggag ctgcgtgcct ttgtcggtt gggggcgagg gcaggtggag ccttgcctc
1141 ccacacagca gtccagcggc agcgccgtgg gaacgtcgtc caaagcagaa gccagcgctc
1201 cctgtccctt ctgctgacat ttcaagctga cctgtgatc tctgccctgt cttcggggga
1261 caggagccag aaaatcaggg acatggctga tggctgcgga tgctggaacc ttggcccca
1321 aactctgggg ccgatcagct gctgtttctc tgcggcaggg cagtcgctgc tggctctggg
1381 aagagagtga gggacagagg aaacgtttat cctggag
```

## (2) INFORMATION FOR SEQ ID NO:2802:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2802

```
1 gctgtgcaac ctggcgcca tgcgaacct ctatgcgatg caccggcggc tgcagcgga
61 ccgcgctcc tgcaccaggg actgtgccga gccgcgcgcg gacgggaggg aagcgtcccc
121 tcagcccttg gaggagctgg atcacctcct gctgctggcg ctgatcacg tgctctcac
181 tatgtgttct ctgccgtaa ttatcgcgc ttactatgga gcatttaagg atgtcaagga
241 gaaaaacagg acctctgaag aagcagaaga cctccgagcc ttgcgatttc tatctgtgat
301 ttcaattgtg gacccttga tttttatcat ttccagatct ccagtatttc ggatattttt
361 tcacaagatt ttcattagac ctcttaggta caggagccgg tgcagcaatt ccactaacat
421 ggaatccagt ctgtgacagt gtttttctact ctgtggtaag ctgaggaata tgtcacattt
481 tcagtcaaag aacca
1 gaattctggc tattttcttc ctgccgttcc gactcggcac cagagtctgt ctctactgag
61 aacgcagcgc gtcaggggcg agctcttcac tggcctgttc cgcgctcttc aatgccagcg
121 ccaggcgctc accctgcaga gcgtcccgcc tctcaaagag ggggtgtgacc cgcgagtta
181 gataggaggt tcctgccgtg gggaacacct cgccgccctc ggagcttttt ctgtggcgca
241 gcttctccgc ccgagccgcg cgcgaggctg ccgggggctc cttagcaccg gggcgccggg
301 gccctcgccc ttcgcagcc ttcactccag cctctgtctc ccgcacgcca tgaagtgcgc
361 gttctaccgc tgccagaaca ccacctctgt ggaaaaaggc aactcggcgg tgatggcgcg
421 ggtgctcttc agcaccggcc tcctgggcaa cctgctggcc ctggggctgc tggcgcgctc
481 ggggtggtgg tgggtgctgc ggcgtccact gcgcccgtg cctcgggtct tctacatgct
541 ggtgtgtggc ctgacggtca ccgacttgct gggcaagtgc ctctaagcc cgggtgtgct
601 ggctgcctac gctcagaacc ggagtctgcg ggtgcttgcg ccgcattgg acaactcgtt
661 gtgccaagcc ttcgccttct tcatgtcctt ctttgggctc tcctcgacac tgcaactcct
721 ggccatggca ctggagtgtt ggctctccct agggcaccct ttcttctacc gacggcacat
781 caccctgcgc ctgggcgcac tgggtggccc ggtggtgagc gccttctccc tggctttctg
841 cgcgtacctt tcatgggct tcgggaagtt cgtgcagtac tgccccgca cctggtgctt
901 tatccagatg gtccacgagg agggctcgtt gtcggtgctg gggtaactct tgctctactc
961 cagcctcatg gcgtgctgg tcctcgccac cgtgctgtgc aacctcggcg ccatgcgcaa
1021 cctctatgcg atgcaccggc ggctgcagcg gaccccgcg tcctgcacca gggactgtgc
1081 cgagccgcgc gcggacggga gggaaagctc cctcagccc ctggaggagc tggatcacct
1141 cctgctgctg gcgtgtatga ccgtgctctt cactatgtgt tctctgccc taattgtgag
1201 tccccgggccc ccgagg
1 gggcgccgct cggcgcgctg ggtgcgggaa gggggctctg gatttcggtc cctccccctt
61 ttcctctgag tctcggaacg ctccagctct cagaccctct tcctcccagg taaaggccgg
```

121 gagaggagg cgcattcttt ttccaggcac cccaccatgg gcaatgcctc caatgactcc  
181 cagtctgagg actgagagac ggcagagtgg cttccccag gcgaaagccc agccatcagc  
241 tccgtcatgt tctcgccgg ggtgctgggg aacctcatag cactggcgct gctggcgcg  
301 cgctggcggg gggacgtggg gtgcagcgcc ggccgcagga gctccctctc cttgttccac  
361 gtgctgggtga ccgagctggt gttcaccgac ctgctcggga cctgcctcat cagcccagtg  
421 gtactggctt cgtacgcgcg gaaccagacc ctggtggcac tggcgcccga gagccgcgcg  
481 tgcacctact tcgctttcgc catgaccttc ttcagcctgg ccacgatgct catgctcttc  
541 gccatggccc tggagcgcta cctctcgatc gggcaccctt acttctacca gcgcgcgctc  
601 tcggcctccg ggggctggc cgtgctgctt gtcattctatg cagtctccct gctcttctgc  
661 tcgctgccgc tgcctggacta tgggcagtac gtccagtact gccccgggac ctggtgcttc  
721 atccggcacg ggcggaccgc ttacctgcag ctgtacgcca cctgctgctt gcttctcatt  
781 gtctcggtgc tcgctgcaa cttcagtgct attctcaacc tcattccgat gcaccgcca  
841 agccggagaa gccgctgcg accttccctg ggcagtggcc gggcgccgc cggggccgcg  
901 aggagagggg aaagggtgtc catggcgag gagacggacc acctcattct cctggctatc  
961 atgaccatca ccttcgccgt ctgctccttg cctttcacga tttttgcata tatgaatgaa  
1021 acctcttccc gaaaggaaaa atgggacctc caagctctta ggtttttctc aattaattca  
1081 ataattgacc cttgggtctt tgccatcctt aggcctcctg ttctgagact aatgcgttca  
1141 gtcctctgtt gtcggatttc attaagaaca caagatgcaa cacaaccttc ctgttctaca  
1201 cagtcagatg ccagtaaaca ggctgacctt tgaggtcagt agtttaaaag ttcttagtta  
1261 tatagcatct ggaagatcat tttgaaattg ttccctggag aaatgaaaac agtgtgtaaa  
1321 caaaaatgaag ctgccctaata aaaaaggagt atacaaacat ttaagctgtg gtaaggcta  
1381 cagatgtgct gacaaggcac ttcatgtaaa gtgtcagaag gagctacaaa acctaccctc  
1441 aatgagcatg gtacttggcc tttggaggaa caatcggtcg cattgaagat ccagctgcct  
1501 attgatttaa gctttcctgt tgaatgacaa agtatgtggt tttgtaattt gtttgaacc  
1561 ccaaacagtg actgtacttt ctattttaat cttgctacta ccgttatata catatagtgt  
1621 acagccagac cagattaaac ttcatatgta atctctagga agtcaatatg tggaagcaac  
1681 caagcctgct gtcttgtgat cacttagcga accttttatt tgaacaatga agttgaaaat  
1741 cataggcacc ttttactgtg atgtttgtgt atgtgggagt actctcatca ctacagtatt  
1801 actcttacia gagtggactc agtgggttaa catcagtttt gtttactcat cctccaggaa  
1861 ctgcaggtca agttgtcagg ttatttattt tataatgtcc atatgctaag agtgatcaag  
1921 aagacttttag gaatggttct ctcaacaaga aataatagaa atgtctcaag gcagttaatt  
1981 ctcatataata ctcttattat cctatttctg ggggaggatg tacgtggcca tgatgaagc  
2041 caaatattag gcttaaaaac tgaaaaatct ggttcattct tcagatatac tggaacctt  
2101 ttaaagttag tattggggcc atgagtaaaa tagattttat aagatgcagt tgtgtacca  
2161 aaattcatct gtctatattt tatttagggg aacatgggtt gactcatctt atatgggaaa  
2221 ccatgtagca gtgagtcata tcttaataata tttctaaatg tttggcatgt aaatgtaaac  
2281 tcagcatcaa aatatttcag tgaatttgca ctgtttaatc atagtactg tgtaaaactca  
2341 tctgaaatgt tacaaaaata aactataaaa ca

1 agagaggaag gcgtggctcc ctccggggc agtgagccct ggcgcgcgcg cggccgcggt  
61 ccagcagcg gagtagggcg gcggtgcgc ccgcaccat ggggggcagc ccagccccag  
121 ccgcggtaaa cgccgacctc cgcgcgcgc cgcgcgcgct ctgccccctc ccgtgcggc  
181 tctctggacg ccattccctc ctacactcga agccaacatg aaggagaccg ggggctacgg  
241 aggggatgcc cccttctgca ccgcctcaa cactcctac acaggcatgt gggcgcccga  
301 gcgttcggcc gaggcgcggg gcaacctcac gcgccctcca gggctctggc aggattgcg  
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421 ggccatgctg ctggtgtcgc gcagctaccg gcgcgggag agcaagcgca agaagtcctt  
481 cctgctgtgc atcggtggc tggcgctcac cgacctggtc gggcagcttc tcaccacccc  
541 ggtcgctatc gtcgtgtacc tgtccaagca gcgttgggag cacatcgacc cgtcggggcg  
601 gctctgcacc tttttcgggc tgaccatgac tgttttcggg ctctcctcgt tgttcatcgc  
661 cagcgccatg gccgtcgagc gggcgctggc catcaggggc ccgcatggt atgcgagcca  
721 catgaagacg cgtgccaccc gcgctgtgct gctcggcggt tggctggccg tgctcgcctt  
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841 tttcatcagc accgggcgag ggggcaacgg gactagctct tcgcataact ggggcaacct  
901 tttcttcgcc tctgcctttg ccttctctgg gctcttggcg ctgacagtca ccttttctg  
961 caacctggcc accattaagg ccctggtgtc ccgctgccc gccaaggcca cggcatctca  
1021 gtccagtgcc cagtggggcc gcatcacgac cgagacggcc attcagctta tgggatcat  
1081 gtgcgtgctg tcggtctgct ggtctccgct cctgataatg atgttgaaaa tgatcttcaa  
1141 tcagacatca gttgagcact gcaagacaca caggagaaag cagaaagaat gcaacttctt  
1201 cttaatatgt gttcgcctgg cttactgaa ccagatcttg gactcctggg ttacctgct  
1261 gtttaagaaa atccttcttc gaaagttttg caaggtagca aatgctgtct ccagctgctc  
1321 taatgatgga cagaaagggc agcctatctc attatctaata gaaataatag agacagaagc  
1381 atgaaagaaa aacttaact tgcattgtga cagcttcttg taacaaatat cgctaaacct  
1441 tactgtgaat ttaggcattc ctggcatgcc actgtttatg cattgaagtg gaatttttg  
1501 tataaagcta aatgggtctt gaagcataga aaatccctat gtgcaaaaag tagtgaaaca  
1561 caaacaagg aaaatatatt aataacagtc tagtgtttt gttgagctg ccattcgtag  
1621 ctgaatatgt gattaattat gtgatgaaa ctttttttat aaatgatctt ggtctattgg  
1681 gg

1 ccggggccag tgagccctgg cgccgcgcg gcgcgggtcc cagcagcgga gtagggcg

61 ggctgcgccc cgcaccatgg ggggcagccc agccccagcc gcggtaaacg ccgacctccg  
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## (2) INFORMATION FOR SEQ ID NO:2803:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2803

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## (2) INFORMATION FOR SEQ ID NO:2804:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2804

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1861 acctttttat taagattcag tgaaagccat ctggaggaaa taactttcac ctgggtggac
1921 cattctgaaa gtggggaagt gagattccac tctgtagaac cctacaataa agggcgggtt
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2221 ccatcagacc ttcttcccat gtctccaagt gtgtatggg tggtgagaga aaacctgagt
2281 cccacaacaa ttgaaactgc aatgaagtct ccttattctg ctgaatgaca ggataaactc
2341 tgacgcacca agaaaggaag caaatgaaaa agtttaaaag ctgttctttg cccaataacc
2401 acattttatt tcttcagctt tgtaaaatac aggttctagg aaatgtttga catctgaagc
2461 tctcttcaca ctcccgtggc actcctcaat tgggagtgtt gtgactgaaa tgcttgaaac
2521 caaagcttca gataaacttg caagataaga caactttaag aaaccagtgt taataacaat
2581 attaacag

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(2) INFORMATION FOR SEQ ID NO:2805:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2805

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1  atcttatttt tctttttggt ggtggtggtg gaagggggga ggtgctagca gggccagcct
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121 gaagacagca gaggggttgc cgaggcaacc tccaagtcct agatcatgtc tctgtggggg
181 ctggtctcca agatgcccc agaaaaagtg cagcggctct atgtcgactt tccccaacac
241 ctgcggcatc ttctgggtga ctggtgtgag agccagccct gggagtctct ggtcggctcc
301 gacgccttct gctgcaactt ggctagtgc ctaacttcag acactgtcca gcacctcag
361 gcctcgggtg gagagcaggg ggaggggagc accatcttgc aacacatcag cacccttgag
421 agcatatatc agagggaccc cctgaagctg gtggccactt tcagacaaat acttcaagga
481 gagaaaaaag ctgttatgga acagtccgc cacttgccaa tgcctttcca ctggaagcag
541 gaagaactca agtttaagac aggcttgcgg aggctgcagc accgagtagg ggagatccac
601 cttctccgag aagccctgca gaagggggct gaggtggccc aagtgtctct gcacagcttg
661 atagaaactc ctgctaattg gactgggcca agtgaggccc tggccatgct actgcaggag
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781 cggcagcagc agctggcagg gaatggcgca ccgtttgagg agagcctggc cccactccag
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901 ggtggggagc ttgagcccaa gaccggggca tcgctgactg gccggctgga tgaagtcctg
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1141 gtgcctcagg gtcctggggc tggagcagaa agcactggag aaatcatcaa caacactgtg
1201 cccttgagga acagcattcc tgggaactgc tgctctgccc tgttcaagaa cctgcttctc
1261 aagaagatca agcgggtgtg gcggaagggc actgagctcg tcacagagga gaagtgcgct
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1501 gtgccctggg agaagatgtg tgaaactctg aacctgaagt tcatggctga ggtggggacc
1561 aaccgggggc tgctcccaga gcacttcctc ttcctggccc agaagatctt caatgacaac
1621 agcctcagta tggaggcctt ccagcaccgt tctgtgtcct ggtcgcagtt caacaaggag
1681 atcctgctgg gccgtggctt cacttttggc cagtggtttg atggtgtcct ggacctcacc
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2101 atcaagatga ccgtggaaag ggaccaacca cttcctaccc cagagctcca gatgcctacc
2161 atggtgcctt cttatgacct tggaaatggc cctgattcct ccatgagcat gcagcttggc
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2281 ctctcccccag aagaatcagt caacgtgttg tcagccttcc aggagcctca cctgcagatg
2341 cccccagacc tgggccagat gagcctgccc tttgaccagc ctcaccccca gggcctgtg
2401 ccgtgccagc ctcaggagca tgctgtgtcc agccctgacc cctgctctg ctcagatgtg
2461 accatggtgg aagacagctg cctgagccag ccagtgcagc cgtttctcct gggcacttgg
2521 attggtgaag acatattccc tcctctgctg cctcccaactg aacaggacct cactaagctt
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2761 acctgctctg gacacttgct catgccctgc caagcagcag atggggaggg tgccctccta
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2881 ccaatccact ccttcctttc tatcattccc ctgcccacct ccttccagca ctgactggaa
2941 gggaagttca ggctctgaga cagcccccac catgcctgca cctgcagcgc gcacacgcac
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## (2) INFORMATION FOR SEQ ID NO:2806:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2806

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121 tttttggagc aggtggatca attctatgat gacaactttc ccatggaaat tcggcatctg
181 ttggcccaat ggattgaaaa tcaagactgg gaggcagctt ctaacaatga aaccatggca
241 acgattcttc ttcaaaactt gttaatataa ctggatgaac agttaggtcg tgtttccaaa
301 gagaaaaacc tactcttgat acacaatcta aaaagaatta ggaaggtcct tcagggaaaa
361 tttcatggaa atccaatgca tgtagctgtg gttatttcaa actgtttaag ggaagagagg
421 agaataattg ctgcagccaa catgcctgtc caggggcctc tagagaaatc cttacaaagt
481 tcttcagttt cagaaagaca gaggaatgtg gagcacaag tggctgccat taaaaacagt
541 gtgcagatga cagaacaaga taccaaatac ttagaagatc tgcaagacga atttgactac
601 aggtataaaa caattcagac aatggatcag agtgacaaga atagtgccat ggtgaatcag
661 gaagttttga cactgcagga aatgcttaac agcctcgatt tcaagagaaa ggaggctctc
721 agtaaaatga ccaaatcat ccatgagaca gacctgttaa tgaacaccat gctcatagaa
781 gagctgcaag actggaagcg gcggcagcaa atcgctgca tcgggggtcc actccacaat
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1081 cttaaaaccc taattcagtt cactgtaaaa ctaaggctac taataaaatt gccagaacta
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1321 aaaggaaatg agggctgtca catggtgact gaagaacttc attccataac gtttgaacaa

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1381 cagatctgcc tctatggcct gaccatagat ttggagacca gtcattgcc tgtggtgatg  
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1501 accaacgatt cccagaactt gggtttcttt aataatcttc cacctgccac attgagtcaa  
1561 ctactggagg tgatgagctg gcagttttca tcgtacgttg gtcgtggtct taactcagat  
1621 caactccata tgctggcaga gaagcttaca gtccaatcta gctacagtga tggtcacctc  
1681 acctgggcca agttctgcaa ggaacattta cctggtaaat catttacctt ttggacatgg  
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2581 attaacag

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121 gaagacagca gaggggttgc cgaggcaacc tccaagtccc agatcatgtc tctgtgggtg

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## (2) INFORMATION FOR SEQ ID NO:2807:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2807

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901 tagtactttg ttacagcagc cctagcaaac tgatacactc accaaatcga ttttgtgact  
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## (2) INFORMATION FOR SEQ ID NO:2808:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2808

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## (2) INFORMATION FOR SEQ ID NO:2809:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2809

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## (2) INFORMATION FOR SEQ ID NO:2810:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: \_ base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2810

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## (2) INFORMATION FOR SEQ ID NO:2811:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2811

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121 agagggagaa tgggataggg gagtgaaggg aagctggcgg tggatggggc aacagaaaag  
181 atgcagcagg cagggccctc tcatacactg gagggccaca tggccaggcc tggaccaga  
241 ctctcaccct ggctcccagg cagcattgga ggtgtggagc catacgtaga tgcacagcc  
301 acctggaccc acttgggcac agtcagactc caaattcaga gtatttggg gtatgacatc  
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481 gccagctata catttaacat atcctaggta catacacgtt cacacagta tacacgaaga  
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1441 tgccaccag cctccactcc caagctgcc ctcac

(2) INFORMATION FOR SEQ ID NO:2812:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2812

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121 tgattttcct gcttcagctt cccaggtagc tgggattgca ggcacatgcc actgtgcccc  
181 gataattttt tgtatttttt agtagagacg gggcttcacc atgttggtcca ggctggtctt  
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## (2) INFORMATION FOR SEQ ID NO:2813:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2813



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## (2) INFORMATION FOR SEQ ID NO:2814:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2814

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181 ccccaacaac cgctgttcgg ctactcgtgc gtgctgcaca gccacggggc gaaccgatgg  
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361 ggtagcccta atggagaacc ttgtggaaaag acttgtttgg aagagagaga caatcagtg  
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541 ggagtgtccc ctgattttacg aacagaactg agtaaaagaa tagctccgtg ttatcaagat  
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## (2) INFORMATION FOR SEQ ID NO:2815:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2815

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121 cgcaccacgc ccgggacccc acccagcggc ccgtaccggg agaagcagcg cgagcaccgg  
181 aagctcccg ctcggcgga gaaacggga gtggggccgg gcgagtgccg ggcatcccg  
241 gccggcccga acgtccgccc cgggtgggccc gacttcccct cctctctcc cctccttcc  
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3421 gaagatatct tgaaatgaaa gtataactga gttaaattat actggagaag tcttagactt
3481 gaaatactac ttaccatatg tgcttgcttc agtaaaatga accccactgg gtgggcagag
3541 gttcatctca aatacatctt tgatacttgt tcaaaatatg ttctttaaaa atataatttt
3601 ttagagagct gttcccaaat tttctaacga gtggaccatt atcactttaa agccctttat
3661 ttataatata tttcctacgg gctgtgttcc aacaaccatt ttttttcagc agactatgaa
3721 tattatagta ttataggcca aactggcaaa cttcagactg aacatgtaca ctggtttgag
3781 cttagtgaat tgacttccgg aatct

```

## (2) INFORMATION FOR SEQ ID NO:2816:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2816

## (2) INFORMATION FOR SEQ ID NO:2817:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2817

## (2) INFORMATION FOR SEQ ID NO:2818:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2818

## (2) INFORMATION FOR SEQ ID NO:2819:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: \_ base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2819

## (2) INFORMATION FOR SEQ ID NO:1:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1108 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

```
1  cagctgtccc tccccactgc catttattcc ttccttcatt caaaccttat gtggctgcta
61  cttaccgtgt gttaagtgtt cacttttttt cttggaattc aaaaaaagaa ggacagtatt
121 tggggcacag atcttttggg gttctataca tttttttaa gtttcatttt acatttgtgt
181 gtgcgtgtgt gtgtgtgtgt gagacagtct tgctctgttg cccaggctgg agtgacgtgg
241 cataatcatt ggctcactgt agcctcaaag tcctgggccc aagcgatctt cccacctcag
301 ccacccaaaa tgctgggggt acaggtttat gccactctgt ctgacctgaa agttttgggt
361 ttactttccc tcttttctct ttgctgaagt cagagatgat ggcagcttcc agattctctg
421 gtgcctgtgc tgggctcgtg ctggtcatgg tcttgggtcc aggattcatt ctggagactc
481 tcagggaagt ttcccatgac aaggaaatgt aggagagtgt gctggctttg cgtgctcctc
541 tgccaagccc tgcttctcct ggtgggacac actgaaccac agccagggca ttttgggtgt
601 tagttaaaaa aaaaaaaaaa aaaaaaaagg aagaagaagg cactgtgtaa ttgtgccggg
661 gatcttcaga aattgtaatg atgaaagagt gcaagctctc acttccccct cctgtacagg
721 gcaggttgtg cagctggagg cagagcagtc ctctctgggg agcctgaagc aaacatggat
781 caagaaactg taggcaatgt tgtcctgttg gccatcgtca ccctcatcag cgtggtccag
841 aatggtaagg aaagcccttc actcagggaa gaacagaagg ggagattttc tttgatgggt
901 gtttgggaagt caggcttaaa caattgtgtc tgtgtgtgcg catgcacaaa cacttttacc
961 ttatctttat tttcttctt ttatttgaat gtatagggtt gtgtgtattt ctgtgtaaat
1021 ttgggggttt cctcctctta gtcttccact tttgtgggtg ttaccagtcc catttttaga
1081 gccagggtct caacttgaag gttttgtc
```

## (2) INFORMATION FOR SEQ ID NO:2:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 540 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

```
1  tgcgttttgg gggttcctg agtatcaatc atggatcaag aaactgtagg caatgttgtc
61  ctgttggcca tcgtcacctt catcagcgtg gtccagaatg gattctttgc ccataaagtg
121 gagcacgaaa gcaggacca gaatgggagg agcttcaga ggaccggaac acttgccttt
181 gagcggtctt aactgccaa ccagaactgt gtatgtcgt accccacttt cctcgtgtg
241 ctctgggtctg cggggctact ttgcagccaa gttcctgctg cgtttgctgg actgatgtac
301 ttgtttgtgc ggcaaaagta ctttgcggt tacctaggag agagaacgca gagcaccctt
361 ggctacatat ttgggaaacg catcactctc ttctgttcc tcatgtcgtg tgctggcata
421 ttcaactatt acctcatctt cttttcgga agtgactttg aaaactacat aaagacgac
481 tccaccacca tctcccctct acttctcatt tcctaactct ctgctgaata tgggttgggt
```

## (2) INFORMATION FOR SEQ ID NO:3:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2022 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

```
1 atgccctcct acacggtcac cgtggccact ggcagccagt gggtcgccgg cactgacgac
61 tacatctacc tcagcctcgt gggctcgccg ggctgcagcg agaagcacct gctggacaag
121 cctttctaca acgacttcga gcgtggcgcg gtggattcat acgacgtgac tgtggacgag
181 gaactgggcg agatccagct ggtcagaatc gagaagcgca agtactggct gaatgacgac
241 tggtagctga agtacctcac gctgaagacg cccacggggg actacatcga gttcccctgc
301 taccgctgga tcaccggcga tgtcgagggt gtctgagggt atggacgcgc aaagtggcc
361 cgagatgacc aaattcacat tctcaagcaa caccgacgta aagaactgga aacacggcaa
421 aaacaatatc gatggatgga gtggaaccct ggcttcccct tgagcatcga tgccaaatgc
481 cacaaggatt taccctgga tatccagttt gatagtgaag aaggagtgga cttgttctg
541 aattactcca aagcgatgga gaacctgttc atcaaccgct tcatgcacat gttccagctc
601 tcttggaaatg acttcgcccga ctttgagaaa atctttgtca agatcagcaa cactatttct
661 gagcgggtca tgaatcactg gcaggaaagac ctgatgtttg gctaccagtt cctgaatggc
721 tgcaaccctg tgttgatccg gcgtgcaca gagctgcccg agaagctccc ggtgaccacg
781 gagatggtag agtgcagcct ggagcggcag ctcagcttgg agcaggagggt ccagcaaggg
841 aacattttca tcgtggactt tgagctgctg gatggcatcg atgccaacaa aacagacccc
901 tgcacactcc agttcctggc cgctcccata tgcttggctg ataagaacct ggccaacaag
961 attgtcccca ttgccatcca gctcaaccaa atcccgggag atgagaacct tattttcctc
1021 ccttcggatg caaaatcaga ctggcttttg gccaaaatct ggggtcgctc cagtgaactc
1081 cagctccacc agaccatcac ccaccttctg cgaacacatc tgggtgtctga ggtttttggc
1141 attgcaatgt accgccagct gcctgctgtg caccctattt tcaagctgct ggtggcacac
1201 gtgagattca ccattgcaat caacaccaag gcccgtagc agctcatctg cgagtgtggc
1261 ctctttgaca aggccaacgc cacagggggc ggtgggcacg tgcagatggt gcagagggcc
1321 atgaaggacc tgacctatgc ctccctgtgc tttcccagg ccatcaaggc ccggggcatg
1381 gagagcaaa aagacatccc ctactacttc taccgggacg acgggctcct ggtgtgggaa
1441 gccatcagga cgttcacggc cgaggtggta gacatctact acgagggca ccaggtgtgtg
1501 gaggaggacc cggagctgca ggacttcgtg aacgatgtct acgtgtacgg catgcggggc
1561 cgcaagtcct caggcttccc caagtcggtc aagagccggg agcagctgtc ggagtacctg
1621 accgtgtgta tcttcaccgc ctccgcccag cagccgcggg tcaacttcgg ccagtacgac
1681 tgggtgctct ggatcccaa tgcgccccca accatgcgag ccccgccacc gactgccaag
1741 ggcgtgtgta ccattgagca gatcgtggac acgctgcccg acccgggccg ctccctgctg
1801 catctgggtg cagtgtgggc gctgagccag ttccaggaaa acgagctgtt cctgggcatg
1861 taccagaag agcattttat cgagaagcct gtgaaggaa ccatggcccg attccgcaag
1921 aacctcgagg ccattgtcag cgtgattgct gagcgcaaca agaagaagca gctgccatat
1981 tactacttgt cccagaccg gattccgaac agtgtggcca tc
```

## (2) INFORMATION FOR SEQ ID NO:4:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2500 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

```
1 gggcccgccg ctcgctgctc ccgcccggcg cgccatgcc tctacacgg tcaccgtggc
61 cactggcagc cagtgggtcg ccggcactga cgactacatc tacctcagcc tcgtgggctc
121 ggcgggtgac agcgagaagc acctgctgga caagcccttc tacaacgact tcgagcgtgg
181 cgcgggtgat tcatacgacg tgactgtgga cgaggaaactg ggcgagatcc agctggtcag
241 aatcgagaag cgcaagtact ggctgaatga cgactggtac ctgaagtaca tcacgtgaa
301 gacgccccac ggggactaca tcgagttccc ctgctaccgc tggatcaccg gcgatgtcga
361 ggttgcctg agggatggac gcgcaaagtt ggcccagat gaccaaattc acatttcaa
421 gcaacaccga ctgaaagaac tggaaacacg gcaaaaaaaa tatcgatgga tggagtggaa
481 ccctggcttc cccttgagca tcgatgccaa atgccacaag gatttacctc gtgatatcca
541 gtttgatagt gaaaaaggag tggactttgt tctgaattac tccaaagcga tggagaacct
601 gttcatcaac cgcttcacgc acatgttcca gtcttcttgg aatgacttcg ccgactttga
661 gaaaaatctt gtcaagatca gcaaacatat ttctgagcgg gtcatgaatc actggcagga
721 agacctgatg tttggctacc agttcctgaa tggctgcaac cctgtgtga tccggcgctg
781 cacagagctg cccgagaagc tcccggtagc cacggagatg gttagatgca gcctggagcg
841 gcagctcagc ttggagcagg aggtccagca agggaacatt ttcacgtggt actttgagct
901 gctggatggc atcgatgcc acaaaacaga cccctgcaca ctccagttcc tggccgctcc
961 catctgcttg ctgtataaga acctggccaa caagattgtc cccattgcca tccagctcaa
1021 ccaaatcccc ggagatgaga accctatttt cctcccttcg gatgcaaaat acgactggct
1081 tttggccaaa atctgggtgc gttccagtga cttccacgct caccagacca tcaccacact
1141 tctgcgaaca catctggtgt ctgaggtttt tggcattgca atgtaccgc agctgcctgc
1201 tgtgcacccc attttcaagc tgctggtggc acacgtgaga ttcaccattg caatcaacac
```

```

1261 caaggcccggt gagcagctca tctgcgagtg tggcctcttt gacaaggcca acgccacagg
1321 gggcggtggg cactgcaga tggcgcagag ggccatgaag gacctgacct atgcctccct
1381 gtgctttccc gaggccatca agggccgggg catggagagc aaagaagaca tcccctacta
1441 cttctaccgg gacgacgggc tcctggtgtg ggaagccatc aggacgttca cggccgaggt
1501 ggtagacatc tactacgagg gcgaccaggt ggtggaggag gaccggagc tgcaggactt
1561 cgtgaacgat gtctacgtgt acggcatgcg gggccgcaag tcctcaggct tccccaagtc
1621 ggtcaagagc cgggagcagc tgtcgagta cctgaccgtg gtgatcttca ccgctccgc
1681 ccagcacgcc cgggtcaact tcggccagta cgactggtgc tcctggatcc ccaatgcgcc
1741 cccaaccatg cgagccccgc caccgactgc caaggcggtg gtgaccattg agcagatcgt
1801 ggacacgctg cccgaccgcg gccgctcctg ctggcatctg ggtgcagtgt gggcgctgag
1861 ccagttccag gaaaacgagc tgttcctggg catgtacca gaagagcatt ttatcgagaa
1921 gcctgtgaag gaagccatgg cccgattccg caagaacctc gaggccattg tcagcgtgat
1981 tgctgagcgc aacaagaaga agcagctgcc atattactac ttgtccccag accggattcc
2041 gaacagtgtg gccatctgag cacactgcca gtctcactgt gggaaggcca gctgccccag
2101 ccagatggac tcagcctgc ctggcaggtg tctggccagg cctcttgcca gtcacatctc
2161 ttctccgag gccagtacct ttccatttat tctttgatct tcagggaact gcatagattg
2221 atcaaagtgt aaacaccata gggaccatt ctacacagag caggactgca cagcgtcctg
2281 tccacacca gctcagcatt tccacaccaa gcagcaacag caaatcacga ccactgatag
2341 atgtctattc ttgttgga catgggatga ttattttctg ttctatttgt gcttagtcca
2401 attccttgca catagtaggt acccaattca attactattg aatgaattaa gaattgggtg
2461 ccataaaaaa aatcagttc atttaaaaaa aaaaaaaaaa

```

## (2) INFORMATION FOR SEQ ID NO:5:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2484 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

```

1 gggcccgccg ctcgctgctc ccgcccggccg gcccatgcc tcctacacgg tcaccgtggc
61 cactggcagc cagtgggtcg ccggcactga cgactacatc tacctcagcc tcgtgggctc
121 ggcgggctgc agcgagaagc acctgctgga caagcccttc tacaacgact tcgagcgtgg
181 cgcggtggat tcatacgacg tgactgtgga cgaggaactg ggcgagatcc agctggtcag
241 aatcgagaag cgcaagtact ggctgaatga cgactggtac ctgaagtaca tcacgtgaa
301 gacgccccac ggggactaca tcgagttccc ctgctaccgc tggatcaccc gcgatgtcga
361 ggtgtcctcg agggatggac gcgcaaagt ttggccgagat gaccaaattc acattctcaa
421 gcaacaccga cgtaaagaac tggaaacacg gcaaaaaaa tatcgatgga tggagtggaa
481 ccctggcttc cccttgagca atgaccacaag gatttaccac gtgatatcca
541 gtttgatagt gaaaaaggag tggactttgt tctgaattac tccaaagcga tggagaacct
601 gttcatcaac cgcttcatgc acatgttcca gtcttcttgg aatgacttcg ccgactttga
661 gaaaatcttt gtcaagatca gcaacactat ttctgagcgg gtcatgaatc actggcagga
721 agacctgatg ttggctacc agttcctgaa tggctgcaac cctgtgttga tccggcgctg
781 cacagagctg cccgagaagc tcccggtgac cacggagatg gttagagtga gcctggagcg
841 gcagctcagc ttggagcagg aggtccagca agggaacatt ttcatcgttg actttgagct
901 gctggatggc atcgatgcca acaaaacaga cccctgcaca ctccagttcc tggcgctcc
961 catctgcttg ctgtataaga acctggccaa caagattgtc cccattgcca tccagctcaa
1021 ccaaatcccg ggagatgaga acctattttt cctcccttcg gatgcaaaat acgactggct
1081 tttggccaaa atctgggtgc gttccagtga cttccacgtc caccagacca tcaccacct
1141 tctcggaaca catctggtgt ctgaggtttt tggcattgca atgtaccgcc agctgcctgc
1201 tgtgcacccc attttcaagc tgtggtggc acacgtgaga ttcaccattg caatcaacac
1261 caaggcccggt gagcagctca tctgcgagtg tggcctcttt gacaaggcca acgccacagg
1321 ggcggtggg cactgcaga tggcgcagag ggccatgaag gacctgacct atgcctccct
1381 gtgctttccc gaggccatca agggccgggg catggagagc aaagaagaca tcccctacta
1441 cttctaccgg gacgacgggc tcctggtgtg ggaagccatc aggacgttca cggccgaggt
1501 ggtagacatc tactacgagg gcgaccaggt ggtggaggag gaccggagc tgcaggactt
1561 cgtgaacgat gtctacgtgt acggcatgcg gggccgcaag tcctcaggct tccccaagtc
1621 ggtcaagagc cgggagcagc tgtcgagta cctgaccgtg gtgatcttca ccgctccgc
1681 ccagcacgcc cgggtcaact tcggccagta cgactggtgc tcctggatcc ccaatgcgcc
1741 cccaaccatg cgagccccgc caccgactgc caaggcggtg gtgaccattg agcagatcgt
1801 ggaacacgctg cccgaccgcg gccgctcctg ctggcatctg ggtgcagtgt gggcgctgag
1861 ccagttccag gaaaacgagc tgttcctggg catgtacca gaagagcatt ttatcgagaa
1921 gcctgtgaag gaagccatgg cccgattccg caagaacctc gaggccattg tcagcgtgat
1981 tgctgagcgc aacaagaaga agcagctgcc atattactac ttgtccccag accggattcc
2041 gaacagtgtg gccatctgag cacactgcca gtctcactgt gggaaggcca gctgccccag
2101 ccagatggac tcagcctgc ctggcaggtg tctggccagg cctcttgcca gtcacatctc
2161 ttctccgag gccagtacct ttccatttat tctttgatct tcagggaact gcatagattg
2221 atcaaagtgt aaacaccata gggaccatt ctacacagag caggactgca cagcgtcctg
2281 tccacacca gctcagcatt tccacaccaa gcagcaacag caaatcacga ccactgatag
2341 atgtctattc ttgttgga catgggatga ttattttctg ttctatttgt gcttagtcca

```

2401 attccttgca catagtaggt acccaattca attactattg aatgaattaa gaattggttg  
2461 ccataaaaaat aaatcagttc attt

## (2) INFORMATION FOR SEQ ID NO:6:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2497 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

1 gggcgccgag gtcctccgcc gtcgctgct ccccgcccg cgccatgcc tctacacgg  
61 tcaccgtggc cactggcagc cagtgggtcg ccggcactga cgactacatc tacctcagcc  
121 tcgtgggctc ggcgggctgc agcgagaagc acctgctgga caagcccttc tacaacgact  
181 tcgagcggtg gcgggtgat tcatacgacg tgactgtgga cgaggaactg ggcgagatcc  
241 agctggtcag aatcgagaag cgcaagtact ggctgaatga cgactggtac ctgaagtaca  
301 tcacgctgaa gacgccccac ggggactaca tcgagttccc ctgctaccgc tggatcaccg  
361 gcgatgtcga ggttgtcctg agggatggac gcgcaaagtt ggcccagatg gaccaaattc  
421 acattctcaa gcaacaccga cgtaaagaac tggaaacacg gcaaaaacaa tatcgatgga  
481 tggagtggaa ccctggcttc cccttgagca tcgatgccaa atgccacaag gatttaccct  
541 gtgatatcca gtttgatagt gaaaaaggag tggactttgt tctgaattac tccaaagcga  
601 tggagaacct gttcatcaac cgcttcatgc acatgttcca gtcttcttgg aatgacttcg  
661 ccgactttga gaaaatcttt gtcaagatca gcaacactat ttctgagcgg gtcgatgaatc  
721 actggcagga agacctgatg tttggctacc agttcctgaa tggctgcaac cctgtgttga  
781 tccggcgctg cacagagctg cccgagaagc tcccggtgac cacggagatg gtagagtga  
841 gcctggagcg gcagctcagc ttggagcagg aggtccagca agggaaacatt ttcacgtgg  
901 actttgagct gctggatggc atcgatgcc acaaaacaga ccctgcaca ctccagttcc  
961 tggcgcctcc catctgcttg ctgtataaga acctggccaa caagattgtc cccattgcc  
1021 tccagctcaa ccaaatccc ggagatgaga acctatttt cctcccttcg gatgcaaat  
1081 acgactggct tttggccaaa atctgggtgc gttccagtga ctccacgctc caccagacca  
1141 tcaccacact tctgcgaaca catctggtgt ctgaggtttt tggcattgca atgtaccgcc  
1201 agctgcctgc tgtgcacccc attttcaagc tgctggtggc acacgtgaga ttcaccattg  
1261 caatcaacac caagggccgt gacgagctca tctgcgagtg tggcctctt gacaaggcca  
1321 acgccacagg gggcggtggg cacgtgcaga tgggtgcagag ggccatgaag gacctgacct  
1381 atgcctccct gtgcttccc gagggcatca agggccgggg catggagagc aaagaagaca  
1441 tccctacta cttctaccgg gacgacgggc tctggtgtg ggaagccatc aggacgttca  
1501 cggcggaggt ggtagacatc tactacgagg gcgaccaggt ggtggaggag gaccggagc  
1561 tgcaggactt cgtgaacgat gtctacgtgt acggcatgag gggcgcgaag tctcaggct  
1621 tccccaagtc ggtcaagagc cgggagcagc tgtcggagta cctgaccgtg gtgatcttca  
1681 ccgcctccgc ccagcagccc gcggtcaact tcggccagta cgactggtgc tctggatcc  
1741 ccaatgcgcc cccaacctg cgagccccgc caccgactgc caagggcgtg gtgaccattg  
1801 agcagatcgt ggacacgctg cccgaccgag gccgctcctg ctggcatctg ggtgcagtgt  
1861 gggcgctgag ccagttccag gaaaacgagc tgttcctggg catgtacca gaagagcatt  
1921 ttatcgagaa gcctgtgaag gaagccatgg cccgattccg caagaacctc gaggccattg  
1981 tcagcgtgat tgctgagcgc aacaagaaga agcagctgcc atattactac ttgtccccag  
2041 accggattcc gaacagtgtg gccatctgag cacactgcca gtctactgt ggggaaggcca  
2101 gctgccccag ccagatggac tccagcctgc ctggcaggct gtctggccag gcctctggc  
2161 agtcacatct cttcctccga ggccagtacc tttccattta ttctttgatc ttcagggaac  
2221 tgcatagatt gtatcaaatg gtaaacacca tagggacca ttctacacag agcaggactg  
2281 cacaggcgtc ctgtccacac ccagctcagc atttccacac caagcagcaa cagcaaatca  
2341 cgaccactga tagatgtcta ttctgttgg agacatggga tgattatttt ctgttctatt  
2401 tgtgcttagt ccaattcctt gcacatagta ggtaccat tcaattacta ttgaatgaat  
2461 taagaattgg ttgccataaa aataaatcag ttcattt

## (2) INFORMATION FOR SEQ ID NO:7:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10151 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

1 cagctgtccc tcccactgc catttattcc ttcttctatt caaaccttat gtggtcgtca  
61 cttaccgtgt gtttaagtgt cacttttttt cttggaattc aaaaaaagaa ggacagtatt  
121 tggggcacag atcttttggg gttctataca tttttttaa gtttcatctt acatttgtgt  
181 gtgctgtgtg gtgtgtgtg gagacagtct tgctctgttg cccaggtctg agtgcagtgg  
241 cataatcatt ggctcactgt agcctcaagc tcttgggccc aagcagatct cccacctcag  
301 ccacccaaaa tgctgggggt acaggtttat gccactctgt ctgacctgaa agttttgggt  
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## (2) INFORMATION FOR SEQ ID NO:8:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2383 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

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2341 catcgtgttt taagctgtgc caaatgaaaa aaaaaaaaaa aaa

```

## (2) INFORMATION FOR SEQ ID NO:9:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2988 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

```

1 catcaccttt ttttaagtag taagaataaa gccactgtat gattctctta atagctatac
61 attaatcctg ttttagtgct tgactggggc agccttccgg gaactggagt ctgtctcttt
121 cagtgccttt ttgttttttg ttggtttttt cgagacgggg tcgatcacgg ctcaccacag
181 ccttaacctc cagggtccca gcaatcctcc cacctcagcc tctgagtag ctgggaccac
241 aggtgtgtgc caccatctcc agcagtttgt ttatttattt tttctttttt tttttttggt
301 agaaatgggc ttttcgccc tgttgcccaa gctggtcttg cacttctggg ctgaagcaat
361 cctctcgctt tggcctccca gagccttggg attacagaat catgggtgag agctggcatg
421 gcccctagag gtcatttggg gtccagctgc ctcaccgtat caatgaggaa actgagggcc
481 agaaaaagaa agcatttttg cccagagtcc ctcagaaaaa aacagaccac atctgatcct
541 tggccctgag tccagagtgg gaggcaccgt gacaacaatg cgcagagcag ggaatgcagg
601 gagccatgga tagtgctggg gtgcctcagg aacctgaag ctgggctgag ccatgatgct
661 gctgccagaa cccctgcaga gggcctgggt tcaggagact cagagtcctc tgtgaaaaag
721 cccttgagga gcgccccagc agggctgcac ttggctcctg tgaggaaagg gctcagggtt
781 ctgggcccct ccgcctgggc cgggctggga gccaggcggg cggctgggct gcagcaatgg
841 accgtgagct ggcccagccc gcgtccgtgc tgagcctgcc tgcgtctgtt ggcagcccca
901 tcatgggctc ctcggtgtac atcacgtgtg agctggccat tgctgtgtgt gccatcctgg
961 gcaatgtgct ggtgtgtgtg gccgtgtggc tcaacagcaa cctgcagaaac gtcaccaact
1021 actttgtggt gtcactggcg gcggccgaca tcgcagtggt tgtgctcgcc atcccctttg
1081 ccatcaccat cagcaccggg ttctgcgtgc cctgccacgg ctgcctcttc attgcctgct
1141 tgcctcctgt cctcacgcag agctccatct tcagtctcct ggccatcgcc attgaccgct
1201 acattgccat ccgcatcccg ctccgttaca atggcttggg gaccggcagc agggctaagg
1261 gcatcattgc catctgctgg gtgctgtcgt ttgccatcgg cctgactccc atgctagggt
1321 ggaacaactg cggctcagcca aaggagggca agaaccactc ccagggtgct ggggagggcc
1381 aagtggcctg tctctttgag gatgtgtgct ccatgaacta catggtgtac ttcaacttct
1441 ttgcctgtgt gctggtgccc ctgctgtcca tgctgggtgt ctatttgagg atcttctgtg
1501 cggcgcgagc acagctgaag cagatggaga gccagcctct gccggggagg cgggtctttg
1561 ccacactgca gaaggagggt catgctgcca agtcaactgg catcattgtg gggctctttg
1621 ccctctgctg gctgccccta cacatcatca actgcttcac tttcttctgc cccgactgca
1681 gccacgcccc tctctggctc atgtacctgg ccacgtcctc ctcccacacc aattcgggtt
1741 tgaatccctt catctacgcc taccgtatcc gcgagttccg ccagaccttc cgcaagatca
1801 ttgcagacca cgtcctgagg cagcaagaac ctttcaaggc agctggcacc agtgcccggg
1861 tcttggcagc tcatggcagt gacggagagc aggtcagcct ccgtctcaac gggcaccggc
1921 caggagtgtg ggccaacggc agtgctcccc accctgagcg gagggccaat ggctatggcc
1981 tggggctggt gagtggaggg agtgcccaag agtcccaggg gaacacgggc ctcccagagc
2041 tggagctcct tagccatgag ctcaaggagg tgtgcccaga gcccctggc ctatagatgac
2101 ccctggccca ggatggagca ggagtgtcct gatgattcat ggagtgtgcc cttcctaag
2161 ggaaggagat ctttatcttt ctggttggct tgaccagtca cgttgggaga agagagagag
2221 tgccaggaga ccctgagggc agccggttcc tactttggac tgagagaagg gagccccagg
2281 ctggagcagc atgaggccca gcaagaaggg cttgggttct gaggaagcag atgtttcatg

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2341 ctgtgaggcc ttgcaccagg tggggggccac agcaccagca gcagcatctt tctgggcagg
2401 cccagccctc cactgcagaa gcatctggaa gcaccacctt gtctccacag agcagcttgg
2461 gcacagcaga ctggcctggc cctgagactg gggagtggct ccaacagcct cctgccacc
2521 acacaccact ctccctagac tctcctaggg ttcaggagct gctgggcccc gaggtgacat
2581 ttgacttttt tccaggaaaa atgtaagtgt gaggaacccc cttttatttt attacctttc
2641 actctctggc tgctgggtct gccgtcggtc ctgctgctaa cctggcagca gaggctctgc
2701 ccggggagcc tcaggcagtc ctctcctgct gtcacagctg ccatccactt ctcatccca
2761 gggccatctc ttggagtgc aaagctggga tcaaggacag ggagttgtaa cagagcagtg
2821 ccagagcatg ggcccaggtc ccaggggaga ggttggggct ggcaggccac tggcatgtgc
2881 tgagtagcgc agagctaccc agtgagaggc cttgtctaac tgcctttcct tctaaaggga
2941 atgttttttt ctgagataaa ataaaaacga gccacatcgt gttttaag

```

## (2) INFORMATION FOR SEQ ID NO:10:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2157 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

```

1 ggcacgagcc cagaaacaaa gacttcacgg acaagtcctt ttggaaccag agagaagccg
61 ggatggaaac tccaaacacc acagaggact atgacacgac cacagagttt gactatgggg
121 atgcaactcc gtgccagaag gtgaacgaga gggccttttg ggcccaactg ctgccccctc
181 tgtactcctt ggtatttgtc attggcctgg ttggaacat cctggtggtc ctggctcctg
241 tgcaatacaa gaggctaaaa aacatgacca gcatctacct cctgaacctg gccatttctg
301 acctgctctt cctgttcacg cttcccttct ggatcgacta caagttgaag gatgactggg
361 tttttggtga tgccatgtgt aagatcctct ctgggtttta ttacacaggc ttgtacagcg
421 agatcttttt catcatcctg ctgacgattg acaggtacct ggccatcgtc cagccctgtg
481 ttgccttgcg ggcacggacc gtcaactttg gtgtcatcac cagcatcatc atttgggccc
541 tggccatctt ggcttccatg ccaggcttat acttttccaa gacccaatgg gaattcactc
601 accacacctg cagccttcac tttcctcacg aaagcctacg agagtggaa gctgttcagg
661 ctctgaaact gaacctcttt gggctgggat tgcctttggt ggtcatgac atctgctaca
721 cagggattat aaagattctg ctaagacgac caaatgagaa gaaatccaaa gctgtccgtt
781 tgatttttgt catcatgatc atcttttttc tcttttgga cccctacaat ttgactatac
841 ttatttctgt tttccaagac ttcctgttca cccatgagtg tgagcagagc agacatttgg
901 acctggctgt gcaagtgcag gaggtgatcg cctacacgca ctgctgtgtc aacccagtga
961 tctacgcctt cgttggtgag aggttccgga agtacctgag gcagttgttc cacaggcggtg
1021 tggctgtgca cctggttaaa tggtcctcct tctctcctg ggacaggtcg gagagggtca
1081 gctccacatc tccctccaca ggggagcatg aactctctgc tgggttctga ctcagacat
1141 agggaggcaa cccaaaataa gcaggcggtg cctgccaggc aactgagcc agcagcctgg
1201 ctctcccagc caggttctga ctcttggcac agcatggagt cacagccact tgggatatag
1261 aggggaatga atggtggcct ggggcttctg aggttcttgg ggtctcagtc ttttccatga
1321 acttctcccc tggtagaaag aagatgaatg agcaaaacca aatattccag agactgggac
1381 taagtgtacc agagaagggc ttggactcaa gcaagatttc agatttgtga ccattagcat
1441 ttgtcaacaa agtcaccac ttcctactat tgcttgaca aaccaattaa acccagtagt
1501 ggtgactgtg ggctccatc aaagtgcgct cctaagccat gggagacact gatgtatgag
1561 gaatttctgt tcttccatca cctccccccc ccgccaccc tccactgcc aagaacttgg
1621 aaatagtgat ttccacagtg actccactct gagtcccaga gccaatcagt agccagcatc
1681 tgccctccct tcactccac cgaggattt gggctcttgg aatcctgggg aacatagaac
1741 tcatgacgga agagttgaga cctaacgaga aatagaaatg ggggaactac tgctggcagt
1801 ggaactaaga aagcccttag gaagaatttt tatatccact aaaatcaaac aattcagggg
1861 gtgggctaag cacgggcat atgaataaca tgggtgtgctt cttaaaatag ccataaaggg
1921 gagggactca tcatttccat ttacccttct tttctgacta ttttccagaa tctctcttct
1981 tttcaagttg ggtgatattg tggtagattc taatggcttt attgcagcga ttaataacag
2041 gcaaaaggaa gcagggttgg tttcccttct tttgttctt catctaagcc ttttggtttt
2101 atgggtcaga gttccgactg ccatcttggg cttgtcagca aaaaaaaaaa aaaaaa

```

## (2) INFORMATION FOR SEQ ID NO:11:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 949 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

```

1 agaagctttt gctcctggga ttagggtgat gggcctctaa tgtcaccagt gaaatgggat
61 attagatatt ttccagctag gatacgacag ctcccaataa aaccaattaa ctaagccttt
121 tctgcaagca aggagccgtc tggaaacataa ggactttaac cttgggttag agacaggcaa
181 gcagaagtct tcaattgtgt cacaattttc actgaggact caagtgcact aagaaagtaa
241 ttgtgattgt cagagccttg ttcttctctt tctttctcca gccgcagct tcactactc
301 aggagagtg ctacgcaatc tgacttgaca gcttctagaa agaaattaga gcaacagggg

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361 tctcagcagg gtggtcttgg gccaaacact gaaagcaggc aggettaccc tttcctcttc  
421 tgcccccttc aactttttcc tgatgttctt acccacatcc ctcaccacac cacacccttt  
481 cattcatcct tgtcccagac ttattaagta tatacagata agcaatccag ggaacttgca  
541 ttcattagga gaaaccacaga aattcaaaag caataatgat ctaatcccag aggagtagaa  
601 aacaggaagt gggcagctgc cagctttctt gctttgctgg agtattctgg aatttgatgg  
661 gttgaggggt ctggacacaa tgcccacagc cccttccttg ttgtgctggg ttcctatttc  
721 tgcctctcggc actgacttag cagctgctca agagctcact atgttgctgg ggattacact  
781 ggtctcacc acatctccgg cagtttgtgg gcaaaccctc tgagcagcct tgggtgatga  
841 aacctttcat ggtagcagga gaatgggact gtgaattctc aatcccctgt cccccccct  
901 tccttcctct ctcagggcct taaagtctag gaggaggaag cacagcagc

## (2) INFORMATION FOR SEQ ID NO:12:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3734 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

1 cttgctttgc tggagtattc tggtaatttg atgggttgag ggttctggac acaatgcccc  
61 aagcccccttc cttgttctgc tgggttccca tttctgctct cggcactgac ttagcagctg  
121 ctcaagagct cactatgttg gcttgatta cacggctctca cccacatctc cggcagtttg  
181 tgggcaaacc tcctgagcag ccttgggtga tgaaaccttt catggtagca ggagaatggg  
241 actgtgaatt ctcaatcccc tgtcccaccc ccttccttcc tctctcaggg ccttaaagtc  
301 taggaggagg aagcacagca gcaactgact gggcagcctt tcaggaaaga tgcagccact  
361 cctgcttctg ctggcctttc tcctaccacac tggggctgag gcaggtgagt gaccatcccc  
421 accctcagag gcctgacctc atcccataga ttcttgagcc aaattgcctt ggtatatcct  
481 aattctgtac tgttgagcaa gttatttgaa tttgtgtttc ctcatctata aaatgagaat  
541 aatattaata ccgatcttgc agagtgtcca tgagagttaa ataagttaga gtatttaaat  
601 gtcttggaa tgccgcaca ctataagtgc tataaaaaca tgctttgtgt aaataatttg  
661 gcagcatgtg tcagacccta cctaggaggt aagaatacag caataacagt accatcagtc  
721 catgtctaga tttttaaaca ccagtccacac gtggtcttga attggactca gagggctctg  
781 ggaagctcca tgaggataaa agtataaggg aacttcagga acaatcctgt acttacagca  
841 aagcattctc ctcaatacct gaggtgaaag ctggccttgc ctggaacaag ggtgttctc  
901 cctcttttgg agaggaggag ggaggtgagg cctaggatgg ggaaaagggc tcctttcaag  
961 acagcagtg ttcctgtaga accctggagc cccctcccaa tctgtgccc catagactcc  
1021 aagcctcagc accatctcct ccctctctc caccctctct cctgccgtcc ccattctcca  
1081 gcctttcttg agccaccaat ctggtaccca cattgcaggt tcagcaagca tagagctaag  
1141 tgccaaatgc ttccttccag gggagatcat cggaggccgg gagagcaggc cccactcccg  
1201 cccctacatg gcgtatcttc agatccagag tccagcaggt cagagcagat gtggagggtt  
1261 cctggtgcga gaagactttg tgctgacagc agctcattgc tggggaaggt gaggagctaa  
1321 ggaacttctt ggccagccag gaacacagcc ctgaggagct cttcgggtga agagccatct  
1381 gaaagaagag ttgtagcaat gaaaggggtg aagaaagacc aagttagtct ttgcgggagg  
1441 gaacaggcca gtgtaaatga ggaggaaagg aggataagat caaaaagagc aagaggaaga  
1501 gatggaagac acatattggg gctcaaaata taaactcagg ctatttatca acttaatctg  
1561 gggaagtaaa cctgaaggca agtaccaccc tgtcatccct agctcagagc tgcagagaaa  
1621 gaggatacag ctgagcccca gggccctccc atcccctcga ttctggttag ctgcagtctt  
1681 gccctccccg tgctgtctgc ctaccctgca gagctggttg accatagctc ctgcagccca  
1741 gacctacctc ttgcttttgc agcaatataa atgtcacctt gggcgccac aatatccaga  
1801 gacgggaaaa caccagcaa cacatcactg cgcgagagc catccgccac cctcaatata  
1861 atcagcggac catccagaat gacatcatgt tattgcaggt accacctacc tggccctctg  
1921 gctccttctt agtgtgtccg gggacaatgg aggaggaagt gagggcaagg ctccgggggtg  
1981 gcggggaggg catgggatgt gtactgcacc agcgaccccc gagccttggc tggaggcccc  
2041 agctgagcgg gaacgcctac attcttcttc cagctgagca gaagagtcag acggaatcga  
2101 aacgtgaacc cagtggctct gcctagagcg caggagggac tgagaccogg gacgctgtgc  
2161 actgtggccg gctggggcag ggtcagcatc aggaggggaa cagatacact ccgaggtgtg  
2221 cagctgagag tgcagaggga taggcagtgc ctccgcatct tcggttccca cgacccccga  
2281 aggcagattt gtgtggggga ccggcgggaa cggaaggctg ccttcaaggt aaggcatggg  
2341 cattggccaa cacaccccg gagagagggg cccgtgcaga gccaggcagt gcgaacagat  
2401 tccatcccca cagcctcagc ctggcagcca gaccagggtg ggctggggat tgttttcccc  
2461 atcaacctgg tctctggggg aataggagga agaccacaaa cacatacata ggcaacattc  
2521 tcctggagaa gggagaggta ccttgactca gattgggctg gagacagtaa ttaaggcaga  
2581 gctgaagtcc agcgaccgaa aagatccaga ggcttggctc ctgtacccca ccgatcttcc  
2641 atctcacaca caccagcaa ttgaaggggc ccacccaccc ctgccttccc tgagagcccc  
2701 gagctcaggg aagcaggagc agggaggcct gtctcagctc cccttctctt ctctacctac  
2761 agggggatcc cggaggcccc ctgctgtgta acaatgtggc ccacggcatc gtctctatg  
2821 gaaagtcgtc aggggttctt ccagaagtct tcaccagggt ctcaagtttc ctgcccgtga  
2881 taaggacaac aatgagaagc ttcaaactgc tggatcagat ggagaccccc ctgtgactga  
2941 ctcttcttct cggggacaca ggcagctcc acagtgttgc cagagcctta ataaacgtcc  
3001 acagagtata aataaccaat tcctcatttg ttcattaaac gtcattcagt acttagtttg

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3061 tttggattgc tacaacaaaa tagcacaat tgggtggctt ataaataaca aatttatttc
3121 tcacaggtct agaggctaag aagtctaaga tcaagtcact agcagattca gtgtctaatt
3181 agggccatt ttctggttca cagacaacca tcctctccct gtgtccacat atggcaaaa
3241 gggcaaggga attctctgat gtctctttta caaggagcct agtctcattc aaagagctca
3301 gcttttacga cctaatacaca tcccaaaaggc cccacctaata gccatcacga cattggggat
3361 taggtctggg aaacataggg aaagagtgtc tctacacaaa aattttaaaa ttagccaggc
3421 atgggtggcat gtgtctatag tcccagctac ttgggaggct aaagtggaag gattagtga
3481 acccacgagg ttgaggcttc agtgaaccat gcaactccagc ctgagcgaca gagcaagaca
3541 ccattccaag aaagaaaaaa aaaaagactg gcaggccaaa aagacagaac tgaaattcca
3601 aaaaaaaaaga cctacttttag tgtatgaaaa aggtggcatc tcaaatcact gggaaacaat
3661 ggaatttttg aataaatagc attagaacca acctagatag atatttgag gggatggaag
3721 gtataattgg atcc

```

## (2) INFORMATION FOR SEQ ID NO:13:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4683 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

```

1 agaagctttt gctcctggga ttaggttgat gggcctctaa tgtcaccagt gaaatgggat
61 attagatatt ttccagctag gatacgacag ctccaataa aaccaaatta ctaagccttt
121 tctgcaagca aggagccgtc tggaacataa ggactttaac ctggggtagg agacaggcaa
181 gcagaagtct tcaattgtgt cacaattttc actgaggact caagtgcact aagaaagtaa
241 ttgtgattgt cagagccttg ttcttctctt tctttctcca gccgcacgct tcacctactc
301 aggagagtgc ctacgcaatc tgacttgaca gcttctagaa agaaattaga gcaacagggg
361 tctcagcagg gtgtctctgg gccaaacact gaaagcaggc aggccttacc tttcctcttc
421 tgcccccttc aactttttcc tgatgttctt acccacatcc ctcaccacac cacacccttt
481 cattcatcct tgtcccagac ttattaagta tatacagata agcaatccag ggaacttgca
541 ttcatttaga gaaacccaga aattcaaaaag caataatgat ctaatcccag aggagtagaa
601 aacagggaagt gggcagctgc cagctttctt gctttgctgg agtattctgg aatttgatgg
661 gttgaggggt ctggacacaa tgccccaagc cccttctctg ttgtgctggg ttcctatttc
721 tgctctcggc actgacttag cagctgctca agagctcact atgttggtt ggattacact
781 ggtctcacc acatctccgg cagtttgtgg gcaaaccctc tgagcagcct tgggtgatga
841 aacctttcat ggtagcagga gaatgggact gtgaattctc aatccccgtt cccaccctct
901 tcctctctct ctcaggcct taaagtctag gaggaggaag cacagcagc
1 cttgcttttg tggaatttg atgggttgag ggttctggac acaatgcccc
61 aagccccctc cttgttgtgc tgggttctta tttctgctct cggcactgac ttagcagctg
121 ctcaagagct cactatgttg gcttgatta cacggtctca cccacatctc cggcagtttg
181 tgggcaaac tcctgagcag ccttggttga tgaaaccttt catggttagca ggagaatggg
241 actgtgaatt ctcaatcccc tgtccccacc ccttctcttc tctctcaggg ccttaaagtc
301 taggaggagg aagcacagca gcaactgact gggcagcctt tcaggaaaga tgcagccact
361 cctgcttctg ctggcctttc tccatcccac tggggctgag gcaggtgagt gaccatcccc
421 accctcagag gcctgacctc atcccataga ttcttgagcc aaattgcctt ggtatatcct
481 aattctgtac tgttgagcaa gttatttgaa tttgtgttct ctcactata aaatgagaat
541 aatattaata ccgatcttgc agagtgtcca tgagagttaa ataagttaga gtatttaaat
601 gtcttggaaat tgcccgacac ctataagtgc tataaaaaca tgctttgtgt aaataatttg
661 gcagcatgtg tcagacccta cctaggaggt aagaatacag caataacagt accatcagct
721 catgtctaga tttttaaaca ccagctccac gtggtcttga attggactca gagggtcttg
781 ggaagctcca tgaggataaa agtataaggg aacttcagga acaatcctgt acttacagca
841 aagcattctc ctcaatacct gaggtgaag ctggccttgc ctggaacaag ggttgttctc
901 cctcttttgg agaggaggag ggaggtgagg cctaggatgg ggaaaagggc tcctttcaag
961 acagcagtggt ttctgttaga accctggagc cccctcccaa tctgctgccc catagactcc
1021 aagcctcagc accatctcct ccctctcctg caccctctct cctgccgtcc ccatcttcca
1081 gcctttcttg agccaccaat ctggtaccca cattgcaggt tcagcaagca tagagctaag
1141 tgccaaatgc ttcttccag gggagatcat cggaggccgg gagagcaggc cccactcccg
1201 cccctacatg gcgtatcttc agatccagag tccagcaggt cagagcagat gtggagggtt
1261 cctggtgcga gaagactttg tgctgacagc agctcattgc tggggaaggt gaggagctaa
1321 ggaacttctt ggccagccag gaacacagcc ctgaggagct cttcggttga agagccatct
1381 gaaagaagag ttgtagcaat gaaaggttga aagaaagacc aagtgaagtct ttgctggagg
1441 gaacaggcca gtgtaaatga ggaggaaagg aggataagat caaaaagagc aagagggaaga
1501 gatggaagac acatattggg gctcaaaata taaactcagg ctatttatca acttaactctg
1561 gggaaagttaa cctgaaggca agtaccacc tgtcatccct agctcagagc tgctgagaaa
1621 gaggatacag ctgagcccca gggccctccc atcccctcga ttctggttag ctgcagtctt
1681 gccctccccg tgctgtctgc ctaccctgca gagctggttg accatagctc ctgcagccca
1741 gacctacctc ttgcttttgc agcaatataa atgtcaccct gggcgccac aatatccaga
1801 gacgggaaaa caccagcaa cacatcactg cgcgagagc catccgccac cctcaatata
1861 atcagcggac catccagaat gacatcatgt tattgcaggt accacctacc tggccctctg
1921 gctccttctt agtgtgtccg gggacaatgg aggaggaagt gagggcaagg ctccgggggtg

```

1981 gcggggaggg catgggatgt gtactgcacc agcgaccccc gagccttggc tggaggcccc  
2041 agctgagcgg gaacgcctac attcttccctc cagctgagca gaagagtcag acggaatcga  
2101 aacgtgaacc cagtggctct gcctagagcc caggaggagc tgagaccggy gacgctgtgc  
2161 actgtggccg gctggggcag ggtcagcatg aggaggggaa cagatacact ccgagaggtg  
2221 cagctgagag tgcaagggga taggcagtcg ctccgcatct tcggttccca cgacccccga  
2281 aggcagattt gtgtggggga ccggcgggaa cggaaggctg ccttcaaggt aaggcatggg  
2341 cattggccaa cacaccccg gaggaggggg cccgtgcaga gccaggcagt gcgaacagat  
2401 tccatcccca cagcctcagc ctggcagcca gaccagggtg ggctggggat tgttttcccc  
2461 atcaacctgg tctctggggg aataggagga agaccacaa cacatacata ggcaacattc  
2521 tcttgaggaa gggagaggta ccttgactca gattgggctg gagacagtaa ttaaggcaga  
2581 gctgaagtcc agcgaccgaa aagatccaga ggcttggtc ctgtacccca ccgatcttcc  
2641 atctcacaca caccagcaa ttgaaggggc ccaccaccc ctgcttccc tgagagcccg  
2701 gagctcaggg aagcaggagc agggaggcct gtctcagtct ccttctctct ctctacctac  
2761 agggggattc cggaggcccc ctgctgtgta acaatgtggc ccacggcatc gtctctctatg  
2821 gaaagtcgtc aggggttcct ccagaagtct tcaccagggt ctcaagtttc ctgcccctgga  
2881 taaggacaac aatgagaagc ttcaaactgc tggatcagat ggagaccccc ctgtgactga  
2941 ctcttcttct cggggacaca ggccagctcc acagtgttgc cagagcctta ataaacgtcc  
3001 acagagtata aataaccaat tctcatttg ttcatataac gtcatcagt acttagtttg  
3061 tttggattgc tacaacaaaa tagcacaat tggttggtt ataaataaca aatttatttc  
3121 tcacaggtct agaggctaag aagtctaaga tcaagtcact agcagattca gtgtctaatt  
3181 agggccattt ttctgggttca cagacaacca tctctccct gtgtccacat atggcaaaag  
3241 gggcaaggga attctctgat gtctctttta caagggacct agtctcattc aaagagctca  
3301 gcttttacga cctaatacaca tcccaaaggc cccacctaat gccatcacga cattggggat  
3361 taggtctggg aaacataggg aaagagtgtc tctacacaaa aattttaaaa ttagccaggc  
3421 atggtggcat gtgtctatag tccagctac ttgggagggt aaagtggag gattagttga  
3481 acccacgagg ttgaggcttc agtgaacct gcactccagc ctgagcgaca gagcaagaca  
3541 ccattccaag aaagaaaaaa aaaaagactg gcaggccaaa aagacagaac tgaattcca  
3601 aaaaaaaga cctactttag tgtatgaaa aggtggcatc tcaaatcact gggaacaat  
3661 ggaattttt aataaatagc attagaacca acctagatag atatttgag ggatggaag  
3721 gtataattgg atcc

## (2) INFORMATION FOR SEQ ID NO:14:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2156 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

1 ggcacgagcc cagaaacaaa gacttcacgg acaaaagtccc ttggaaccag agagaagccg  
61 ggatggaaac tccaaacacc acagaggact atgacacgac cacagagttt gactatgggg  
121 atgcaactcc gtgccagaag gtgaacgaga gggcctttgg ggcccaactt ctgccccctc  
181 tgtactcctt ggtatttgtc attggcctgg ttggaaacat cctggtgggc ctggtccttg  
241 tgcaatacaa gaggctaaaa aacatgacca gcactacct cctgaacctg gccatttctg  
301 acctgctctt cctgttcacg cttcccttct ggatcgacta caagtgaag gatgactggg  
361 tttttggtga tgccatgtgt aagatcctct ctgggtttta ttacacaggc ttgtacagcg  
421 agatctttt catcatcctg ctgacgattg acaggtacct ggccatcgtc cacgccgtgt  
481 ttgccttggc ggcacggacc gtcacttttg gtgtcatcac cagcatcctc atttggggcc  
541 tggccatctt ggcttccatg ccaggcttat acttttccaa gacccaatgg gaattcactc  
601 accacacctg cagccttcac tttcctcacg aaagcctacg agagtggaaag ctgtttcagg  
661 ctctgaaact gaacctcttt gggctgggtat tgcccttggg ggtcatgatc atctgctaca  
721 cagggtattt aaagattctg ctaagacgac caaatgagaa gaaatccaaa gctgtccgtt  
781 tgatttttgt catcatgatc atcttttttc tcttttggac cccctacaat ttgactatac  
841 ttatttctgt tttccaagac ttcctgttca cccatgagtg tgagcagagc agacatttgg  
901 acctggctgt gcaagtgacg gaggtgatcg cctacacgca ctgctgtgtc aaccaggctg  
961 tctacgcctt cgttgggtgag aggttccgga agtacctgcy gcagtgtgtc cacaggcgtg  
1021 tggctgtgca cctgggttaa tggctccctt tctctccgt ggacaggctg gagagggtca  
1081 gctccacatc tccctccaca ggggagcatg aactctctgc tgggttctga ctcagaccat  
1141 agggaggcaa cccaaaataa gcaggcgtga cctgccaggc aactgagcc agcagcctgg  
1201 ctctcccagc cagggttctga ctcttggcac agcatggagt cacagccact tgggatagag  
1261 aggggaatga atggtggcct ggggttctg aggttcttgg ggcttcagtc ttttccatga  
1321 acttctcccc tggtagaaa agaatgaatg agcaaaaacca aatattccag agactgggac  
1381 taagtgtacc agagaagggc ttggactcaa gcaagatttc agatttgtga ccattagcat  
1441 ttgtcaacaa agtcaccac ttcctactat tgcttgaca aaccaattaa acccagtagt  
1501 ggtgactgtg ggctccattc aaagtgaagt cctaagccat gggagacact gatgtatgag  
1561 gaatttctgt tcttccatca cctccccccc cccgccaccc tccactgcc aagaacttgg  
1621 aaatagtgt tccacagtg actccactct gagtcccaga gccaatcagt agccagcatc  
1681 tgccctccct tcactccac cgaggtattt gggctcttgg aatcctggg aacatagaac  
1741 tcatgacgga agagttaga cctaacgaga aatagaaatg ggggaactac tgctggcagt



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1801 ggaactaaga aagcccttag gaagaatttt tatatccact aaaatcaaac aattcagggg
1861 gtgggctaag cacgggcat atgaataaca tgggtgtgctt cttaaaatag ccataaaagg
1921 gagggactca tcatttccat ttacccttct tttctgacta tttttcagaa tctctcttct
1981 tttcaagrtg ggtgatatgt tggtagattc taatggcttt attgcagcga ttaataacag
2041 gcaaaaggaa gcagggttgg ttcccttct tttgttctt catctaagcc ttctggtttt
2101 atgggtcaga gttccgactg ccattcttga cttgtcagca aaaaaaaaaa aaaaaa

```

## (2) INFORMATION FOR SEQ ID NO:15:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2955 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

```

1 gagagccccc ccccgagac tgaaagtttt ggagattcag gggtcggggg aaagggttca
61 ggaaatggta attgagtttc caagggatag tgttacaagt ggtatggggg gccccctatt
121 tctgatagta atagagaata ttttctttgt tcattatgat agaaccctgt ggataaagag
181 ggaaaataaa tggtgggagt ccccgagggg agaggagaga atccaacagg gtgatttgct
241 gatatttcta cgaggaggga aagaattttt caaagacaaa gttggagtga ggagtttttg
301 tagaggggaa caggtggggg acaaagagag agacacactg agccggtggg aaggggaagaa
361 ttaagagggg tgttccccc cactgtatat taagaaagaa aaacaatggg gacaggacgg
421 cagaagttag agtttcttaa ccaggatgag agggggattt cacggtaact aatgagtgat
481 ttcagacctt attccactat cccagggcaa tcagatatta atcatgtaca agttgaaatc
541 atgctgtgcc tttgaggtaa gacttacata atcctattta gcataacagg cccccagatc
601 cagaagggg aggggtccgc ccctatcact gaaggggagc agggatata aagtggctca
661 tgggtgacca tcacgtttaa caggaatggg caatcaggag ggttaggtcc aattgtgacc
721 aacagaccaa acttccatta atgcttgctg tcttctgtgc aaagccagtc tgtgaggttt
781 gatggggatg gacttggtga gcagagagca gggggacaac gaatcccaga agctgagggg
841 aatgggggtc caaagagccg ctgctgcctc tgggagcacc catgtcagtt agtttttccg
901 tacgggactc aggggtccag attattcgtt tttaaatcct tccattcaca atctttaaga
961 agaagaaaaa aaagaagtct gccgctgacc acaagagctc tatgccctgc cccccacca
1021 catacacaca tcccacactt caattgtctc aaacattctg ggaacatctc actgccacc
1081 acctcaccca actcagcttc acctgcccc aattccctta aggtgagct cccagggcca
1141 agactcaaga ggctcagagt gagcagagaa aatcctcgca gtaacttgg cttccaggaa
1201 gtggccactg gtgggcgttg tggccattca tgagcaccaa accacacaaa aagaactttg
1261 tccctttctt gtcattttga aagactgtga aactggagcc aattctccat catcacacag
1321 gaagctgagt acttccact tggtcaggat cttgaaactt gaattcataa aaccagaaaa
1381 gccccagaaa caaagacttc acggacaaaag tcccttgga cagagtaag tgtcacttgt
1441 cttttctgtc ttatctgtta ctgtggaggg cagtgttgtt caaagacatg catgcagcta
1501 ggggctctc aaaggtaggg ggaattcttt gagtaggctg ggcaaatgtc taagtagccc
1561 atggatgcat ctccaaggca attaatctg tagcaatact gagaatgggt gatttataaa
1621 gctgggtgct cagatgaaat ataggctttt ttgctaaaaa ggaagcttac ttgaaggatt
1681 ggcttttggg tactgattaa gaaagtcagt cagtactaag ggacaaaagg tgttttctgt
1741 ggaaacctat tcaataagaa attacttggc ggggcgcagt ggctcacggc tgtaatccca
1801 gcactttggg gaccgaggc aggtggatga tgaggtaag agatggagac aatcctggcc
1861 atatggtgaa accctgtctc tactaaaaat aaaaattagc cgggcagggt gcccgacct
1921 gttagtccca gctactcaag aggtgaggc aggagaatca ctccaatccg ggaggtggag
1981 gttgcagtga gctgagattg caccacaaca ctccagcctg gcgacagagc aagagtctgt
2041 ctgaaaaaaa aaaattgctt gccaaattcc cccaagttaa ggaacaccaa acatggtgta
2101 tgaagaaatt atagcaagag ggaatatatta gctagaaaaa tcttggcaga tgcaaggatg
2161 atttgatact gaacctatct cttagaaga ctagaaccaa ggaacctcaa aattggcact
2221 gctatctttg gaagagagg aggttttcac tcacccaaag gcaaggagct ggccagtgga
2281 tcttgggggg catctgttct gctctactaa caaagacaca ggtcaggatt ttgttctgaa
2341 gatagagggg catggtggct ccgtataggt atctacttca taggtggcct tgggtgggtcc
2401 cagatttcaa agaagagatg gaaactccca aaagtgtgca caacctggca ccaggctatg
2461 tgccactcac tgatccttta gtccccgcac cgagcagttg gacagtgtg gactgttcag
2521 aatgtggggc ctgggcagtg atgtgtggt aaatgttcaa caactgactc ttctgaagaa
2581 aagatccctg ctttataaca ttgttgatt ttcattgtat aaatgcccc actgtgtgca
2641 gtttcaagct accaacatgc tgaatgtgga gtggggaaga gatgcacgca attgcatctt
2701 ataaaccagt ataagccagc cagcgaccca taggcctggg tgtctttcac catcacagac
2761 tgctctactc tgctcagaga ctccaccaact cccaggctgg aagacactag cagtgggaag
2821 tccaggatcc agggctatac tgaccactgt gccagtggcc ttgaggcaga ctctgcagta
2881 gacaacancc agggctggcc nattagatga caacatgncc ttggtccctc tcggggcccaa
2941 cccagacacc tctctg

```

## (2) INFORMATION FOR SEQ ID NO:16:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1495 base pairs
- (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

```
1 atggaaactc caaacaccac agaggactat gacacgacca cagagtttga ctatggggat
61 gcaactccgt gccagaaggt gaacgagagg gcctttgggg cccaactgct gccccctctg
121 tactccttgg tatttgtcat tggcctggtt ggaaacatcc tgggtggtcct ggtccttgtg
181 caatacaaga ggctaaaaaa catgaccagc atctacctcc tgaacctggc catttctgac
241 ctgctcttcc tgttcacgct tcccttctgg atcgactaca agttgaagga tgactggggt
301 tttgggtgat ccatgtgtaa gatcctctct gggttttatt acacaggcct gtacagcgag
361 atctttttca tcactctgct gacgattgac aggtacctgg ccacgtgcca cgccgtgttt
421 gccttgcggg cacggaccgt cacttttggg gtcacacca gcatcatcat ttgggacctg
481 gccatcttgg ctccatgcc aggtttatcc ttttccaaga cccaatggga attcactcac
541 cacacctgca gccttcactt tcttcacgaa agcctacgag agtggaagct gtttcaggct
601 ctgaaactga acctctttgg gctggtattg cctttgttgg tcatgatcat ctgctacaca
661 gggattataa agattctgct aagacgacca aatgagaaga aatccaaagc tgtccgtttg
721 atttttgtca tcatgatcat cttttttctc ttttggacct cctacaattt gactatactt
781 atttctgttt tccaagactt cctgttcacc catgagtgtg agcagagcag acatttggac
841 ctggctgtgc aagtgcaggg ggtgatcgcc tacacgcact gctgtgtcaa cccagtgtac
901 tacgccttgc ttggtgagag gttccggaag tacctgcggc agttgttcca caggcggtg
961 gctgtgcacc tgggtaaatg gctcccttcc ctctccgtgg acaggctgga gagggtcagc
1021 tccacatctc cctccacagg ggagcatgaa ctctctgctg ggttctgact cagaccatag
1081 gaggccaacc caaaataaagc aggcgtgacc tgccaggcac actgaccagc agcctggctc
1141 tccagccagc gttctgactc ttggcacagc atggagtccg cctcttggat agagaggaat
1201 gtaatggtag cctggggctt ctgaggcttc tgggcttgag tcttttccat gaacttctcc
1261 cctggtagaa aagaagatga atgagcaaaa ccaaatttcc cagagactgg gactaagtgt
1321 accagagaag ggcttggact caagcaagat ttcagatttg tgaccattag catttgtcaa
1381 caaagtcacc cacttccac tattgcttgc acaaaccaat taaaccagat agtggtgact
1441 gtgggctcca ttcaaagtga gtcctaagc catgggagac actgatgtat gagga
```

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6606 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

```
1 ggcacgagcc cagaaacaaa gacttcacgg acaagtcctc ttggaaccag agagaagccg
61 ggtatggaac tccaaacacc acagaggact atgacacgac cacagagttt gactatgggg
121 atgcaactcc gtgccagaag gtgaacgaga gggccttttg ggcccaactg ctgccccctc
181 tgtactcctt ggtatttgtc attggccttg ttggaacat cctggtggtc ctggctcctg
241 tgcaatacaa gaggtctaaa aacatgacca gcatctacct cctgaacctg gccatttctg
301 acctgctctt cctgttcacg cttcccttct ggatcgacta caagttgaag gatgactggg
361 tttttggtga tgccatgtgt aagatcctct ctgggtttta ttacacagcg ttgtacagcg
421 agatcttttt catcatcctg ctgacgattg acaggctacct ggccatcgct cacgccgtgt
481 ttgcccttgc ggcacggacc gtcaactttt gtgtcatcac cagcatcatc atttgggccc
541 tggccatctt ggcttccatg ccaggcttat acttttccaa gacccaatgg gaattcactc
601 accacacctg cagccttcac tttcctcagc aaagcctacg agagtggaa gctgtttcag
661 ctctgaaact gaacctcttt gggctggtat tgcctttgtt ggtcatgac atctgtctaga
721 cagggtattt aaagattctg ctaagacgac caaatgagaa gaaatccaaa gctgtccgtt
781 tgatttttgt catcatgac atcttttttc tcttttggac cccctacaat ttgactatac
841 ttatttctgt tttccaagac ttcctgttca cccatgagtg tgagcagagc agacatttgg
901 acctggctgt gcaagtgcag gaggtgatcg cctacacgca ctgctgtgtc aaccagtgta
961 tctacgcctt cgttgggtgag aggttccgga agtacctgcg gcagtgttc cacaggcgtg
1021 tggctgtgca cctggttaaa tggctccctt tcctctccgt ggacaggctg gagagggtca
1081 gctccacatc tccctccaca ggggagcatg aactctctgc tgggttctga ctcagaccat
1141 aggaggccaa cccaaaataa gcaggcgtga cctgccagcc acactgagcc agcagcctgg
1201 ctctcccagc caggttctga ctcttggcac agcatggagt cacagccact tgggtagag
1261 agggaaatga atggtggcct ggggcttctg aggttctggt ggcttcagtc ttttccatga
1321 acttctcccc tggtagaaag aagatgaatg agcaaaacca aatattccag agactgggac
1381 taagtgtacc agagaagggc ttggactcaa gcaagatttc agatttgtga ccattagcat
1441 ttgtcaacaa agtcaccac ttcccactat tgcttgacaa aaccaattaa acccagtagt
1501 ggtgactgtg ggctccattc aaagtgaact cctaagccat gggagacat gatgtatgag
1561 gaatttctgt tcttccatca cctccccccc ccgcccaccc tccactgcc aagaacttgg
1621 aaatagtgtt ttccacagtg actccactct gagtcccaga gccaatcagt agccagcatc
1681 tgcctccctt tactccccc cgcaggattt gggctcttgg aatcctgggg aacatagaac
1741 tcatgacgga agagttgaga cctaacgaga aatagaaatg ggggaactac tgctggcagt
1801 ggaactaaga aagcccttag gaagaatttt tatatccact aaaatcaaac aattcaggga
1861 gtgggctaag cacgggccat atgaataaca tgggtgtgctt cttaaaatag ccataaaggg
1921 gagggactca tcatttccat ttacccttct tttctgacta tttttcagaa tctctcttct
```

1981 tttcaagttg ggtgatatgt tggtagattc taatggcttt attgcagcga ttaataacag  
2041 gcaaaaggaa gcagggttgg ttcccttct tttgttctt catctaagcc ttctggtttt  
2101 atgggtcaga gttccgactg ccattcttga cttgtcagca aaaaaaaaaa aaaaaa  
1 gagagccccc ccccgagac tgaagtttt ggagattcag gggtcggggg aaagggttca  
61 ggaatggtta attgagtttc caaggatag tgttacaagt ggtatgggag gccccctatt  
121 tctgatagta atagagaata ttttctttgt tcattatgat agaaccctg ggataaagag  
181 ggaataataa tgttgggagt ccccgaggg agaggagaga atccaacagg gtgatttgc  
241 gatatttga cgaggaggga aagaattttt caaagacaaa gttggagtga ggagttttg  
301 tagagggaac caggtgggtt acaaagagag agacacactg agccgtggg aaggaagaa  
361 ttaagagggtg tgttccccc cactgtatat taagaaagaa aaacaatggg gacaggacgg  
421 cagaagttag agtttcttaa ccaggatgag aggggattt cacgtaact aatgagtgt  
481 ttcagacctt attccactat ccaggggcaa tcagatatta atcatgtaca agttgaaatc  
541 atgcgtgtcc tttgaggtta gacttacata atcctattta gcataacagg cccccagatc  
601 cagaaagggtg aggggtccgc ccctatcact gaaggggatc agggatatga aagtggctca  
661 tggttgacca tcacgtttaa caggaatggg caatcaggag gggtaggtcc aattgtgacc  
721 aacagaccaa acttccatta atgcttgagg ttcttgtggc aaagccagtc tgtgaggtt  
781 gatggggatg gacttgggtg gcagagagca gggggacaac gaatcccaga agctgagggg  
841 aatgggggtc caaagagccg ctgctgcctc tgggagcacc catgtcagtt agttttccg  
901 tacgggactc aggggtccag attattcgtt tttaaatcct tccattcaca atctttaaga  
961 agaagaaaaa aaagaagtct gccgtgacc acaagagctc tatgccctgc ccccatccca  
1021 catcacaca tcccacactt caattgtccc aaacattctg ggaacatctc actgccccc  
1081 acctcaccca actcagcttc acctgcccc aattccctta aggtgagct cccagggcca  
1141 agactcaaga ggctcagagt gacagagaa aatcctcgca gtttaacttg cttccaggaa  
1201 gtggccactg gtgggcgttg tggccattca tgagcaccaa accacacaaa aagaacttg  
1261 tccctttctt gtcattttga aagactgtga aactggagcc aattctccat catcacag  
1321 gaagctgagt acttctact tggtcaggat cttgaaactt gaattcataa aaccagaaa  
1381 gccccagaaa caaagacttc acggacaaag tcccttgga ccagagtaag tgtcacttgt  
1441 cttttctgtc ttatctgtta ctgtggaggg cagtgttgtt caaagacatg catgcagta  
1501 ggggtcctc aaagtaggg ggaattcttt gagtaggctg ggcaaatgtc taagtggccc  
1561 atggatgcat ctccaaggca attaatactg tagcaatact gagaatgggtg gatttataaa  
1621 gctgggtgct cagatgaaat ataggctttt ttgctaaaaa ggaagcttac ttgaaggatt  
1681 ggcttttggg tactgattaa gaaagtcagt cagtactaag ggacaaaagg tgtttctgt  
1741 ggaacacctat tcaataagaa attacttggc ggggcgcagt ggctcacggc tgtaatccca  
1801 gcactttggg agaccgaggc aggtggatca tgagggtcaag agatggagac aatcctggcc  
1861 atatggtgaa accctgtctc tactaaaaat aaaaattagc cgggcagggtg gccgcagcct  
1921 gttagtccca ctactcaag aggtgaggc aggagaatca ctcgaatccg ggagtgagg  
1981 gttgcagtga gctgagattg caccacaaca ctccagcctg gcgacagagc aagagtctgt  
2041 ctgaaaaaaa aaaattgctt gccaaattcc cccaagtaaa ggaaaacca acatggtgta  
2101 tgaagaaatt atagcaagag ggaatatta gctagaaaaa tcttggcaga tgcaaggatg  
2161 atttgatact gaacctatct cttagaaga ctagaaccaaa ggatcctcaa aattggcact  
2221 gctatctttg gaagagagggt aggttttcc tcacccaaag gcaaggagct ggccagggtga  
2281 tcttggggg catctgttct gctctactaa caaagacaca ggtcaggatt ttgtctgaa  
2341 gatagagggt catgtgggtt ccgtataggt atctacttca taggtggcct tgggtgggtcc  
2401 cagatttcaa agaagagatg gaaactccca aaagtttgca caacctggca ccaggctatg  
2461 tgccactcac tgatccttta gtccccgcac cgagcagtg gacagtgtg gactgttcag  
2521 aatgtggggc ctgggcagtg atgtgctggt aaatgttcaa caactgactc tctgaagaa  
2581 aagatccctg ctttataaca ttgttgatt ttcatgggtt aaatgcccc actgtgtgta  
2641 gtttcaagct accaactatg tgaatgtgga gtggggaaga gatgcacga attggcattt  
2701 ataaccagt ataagccagc cagcgacca taggcctggg tgtctttcac catcacagac  
2761 tgctctactc tgctcagaga ctcaaccaact cccaggctgg aagacactag cagtggagg  
2821 tccaggatcc agggctatac tgaccactgt gccagtggcc ttgaggcaga ctctgcagta  
2881 gacaacanc agggctggcc nattagatga caacatgncc ttgtccctc tcgggccccaa  
2941 cccagacacc tctg  
1 atggaaactc caaacaccac agaggactat gacacgacca cagagtttga ctatgggat  
61 gcaactccgt gccagaaggt gaacgagag gcctttgggg cccaactgct gccccctctg  
121 tactccttgg tatttgtcat tggcctgggt ggaaacatcc tgggtgtcct ggtccttgtg  
181 caatacaaga ggctaaaaaa catgaccagc atctacctcc tgaacctggc ctttctgac  
241 ctgctcttcc tgttcacgct tcccttctgg atcgactaca agttgaagga tgactgggtt  
301 tttggtgatg ccattgtgaa gatcctctct gggttttatt acacaggctt gtacagcgag  
361 atctttttca tcatctgct gacgattgac aggtacctgg ccattcgtcca cgccgtgtt  
421 gccttgccgg cagggaccgt cacttttggg gtcattacca gcatcatcat ttgggccctg  
481 gccatcttgg ctccatgcc aggtttatac ttttccaaga cccaatggga attcactat  
541 cacactgca gccttcactt tctcagcaa agcctacgag agtggaaagt gttcaggct  
601 ctgaaactga acctcttgg gctgggtatt cctttgttgg tcatgatcat gtctacaca  
661 gggattataa agattctgct aagacgacca aatgagaaga aatccaaagc tgtccgtttg  
721 atttttgtca tcatgatcat ctttttctc ttttggacc cctacaattt gactatactt  
781 atttctgtt tccaagactt cctgttcacc catgagtgtg agcagagcag acatttggac  
841 ctggctgtgc aagtgcgga ggtgatcgcc tacacgcact gctgtgtcaa cccagtgtc

901 tacgccttcg ttggtgagag gttccggaag tacctgcggc agttgttcca caggcgtgtg  
961 gctgtgcacc tgggttaaag gctcccttc ctctccgtg acaggctgga gagggtcagc  
1021 tccacatctc cctccacagg ggagcatgaa ctctctgtg ggttctgact cagaccatag  
1081 gaggccaaac caaaataagc aggcgtgacc tgccaggcac actgaccagc agcctggctc  
1141 tcccagccag gttctgactc ttggcacagc atggagtccg cctcttggat agagaggaat  
1201 gtaatggtgg cctggggctt ctgaggcttc tgggcttgag tcttttccat gaacttctcc  
1261 cctggtagaa aagaagatga atgagcaaaa ccaaatttc cagagactgg gactaagtgt  
1321 accagagaag ggcttggact caagcaagat ttcagatttg tgaccattag catttgtcaa  
1381 caaagtcacc cacttccac tattgcttgc acaaaccaat taaaccagt agtggtgact  
1441 gtgggctcca ttcaaagtga gtcctaagc catgggagac actgatgtat gagga

## (2) INFORMATION FOR SEQ ID NO:18:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1068 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

1 atgacaacct cactagatac agttgagacc ttgtgtacca catcctacta tgatgacgtg  
61 ggcctgctct gtgaaaaagc tgataccaga gcactgatgg cccagtttgt gcccccgctg  
121 tactccctgg tgttcaactgt gggcctcttg ggcaatgtgg tgggtgtgat gatcctcata  
181 aaatacagga ggctccgaat tatgaccaac atctacctgc tcaacctggc catttcggac  
241 ctgctcttcc tcgtcacctc tccattctgg atccactatg tcagggggca taactgggtt  
301 ttggccatg gcatgtgtaa gtcctctca gggttttatc acacaggctt gtacagcgag  
361 atctttttca taatcctgct gacaatcgac aggtacctgg ccattgtcca tgctgtgttt  
421 gcccttcgag cccggactgt cacttttggg gtcatacca gcatcgctac ctggggcctg  
481 gcagtgtag cagctcttcc tgaatttatc ttctatgaga ctgaagagtt gtttgaagag  
541 actctttgca gtgctcttta cccagaggat acagtatata gctggaggca tttccacact  
601 ctgagaatga ccatcttctg tctcgttctc cctctgctcg ttatggccat ctgctacaca  
661 ggaatcatca aaacgctgct gaggtgcccc agtaaaaaaa agtacaaggc catccggctc  
721 atttttgtca tcatggcggt gtttttcatt ttctggacac cctacaatgt ggctatcctt  
781 ctctcttctc atcaatccat cttatttggg aatgactgtg agcggagcaa gcatctggac  
841 ctgggtcatg tggtgacaga ggtgatcgcc tactccact gctgcatgaa cccggtgatc  
901 tacgcctttg ttggagagag gttccggaag tacctgcgcc acttcttcca caggcacttg  
961 ctcatgcacc tgggcagata catcccatc ctctctagtg agaagcttga aagaaccagc  
1021 tctgtctctc catccacagc agagccggaa ctctctattg tgttttag

## (2) INFORMATION FOR SEQ ID NO:19:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1201 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

1 tttttcttct tctatcacag ggagaagtga aatgacaacc tcaactagata cagttgagac  
61 ctttgggtacc acatcctact atgatgacgt gggcctgctc tgtgaaaaag ctgataccag  
121 agcactgatg gcccagtttg tgcccccgct gtactccctg gtgttcaactg tgggcctctt  
181 gggcaatgtg gtgggtgtga tgatcctcat aaaatacagg aggcctcgaa ttatgaccaa  
241 catctacctg ctcaacctgg ccatttcgga cctgctcttc ctctgcaccc ttccattctg  
301 gatccactat gtcagggggc ataactgggt ttttggccat ggcattgtga agctcctctc  
361 aggggtttat cacacaggct tgtacagcga gatcttttcc ataactctgc tgacaatcga  
421 caggtacctg gccattgtcc atgctgtgtt tgcccttcga gcccggactg tcaacttttg  
481 tgtcatcacc agcatcgta cctggggcct ggcagtgtga gcagctcttc ctgaatttat  
541 cttctatgag actgaagagt tgtttgaaga gactctttgc agtgcctttt acccagagga  
601 tacagtatat agctggaggc atttccacac tctgagaatg accatcttct gtctcgttct  
661 ccctctgctc gttatggcca tctgtacac aggaatcacc aaaacgctgc tgagggtgcc  
721 cagtaaaaaa aagtacaagg ccattccggct catttttgtc atcatggcgg tgtttttcat  
781 ttcttgagca ccctacaatg tggctatcct tctctcttcc tatcaatcca tcttatttgg  
841 aaatgactgt gagcggagca agcatctgga cctggctcat ctggtgacag agtgatcgc  
901 ctactccac tgctgcatga acccggtgat ctacgccttt gttggagaga ggttccggaa  
961 gtacctgcgc cacttcttcc acaggcactt gctcatgcac ctgggcagat acatcccatt  
1021 ccttctagt gagaagctgg aaagaaccag ctctgtctct ccattccacag cagagccgga  
1081 actctctatt gtgtttttag tcagatgcag aaaattgcct aaagaggaag gaccaaggag  
1141 atgaagcaaa cacattaagc cttccacact cacctctaaa acagtccttc aaacttccag  
1201 t

## (2) INFORMATION FOR SEQ ID NO:20:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1699 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

```
1 aatcccttttc ctggcacctc tgatatacctt ttgaaattca tgttaaagda tccctaggct
  61 gctatcacat gtggcatctt tgttgagtac atgaataaat caactgggtg gttttacgga
 121 ggatgattat gcttcattgt gggattgtat tttcttctt ctatcacagg gagaagtga
 181 atgacaacct cactagatac agttgagacc tttggtacca catcctacta tgatgacgtg
 241 ggctgtctct gtgaaaaagc tgataccaga gcaactgatg gccagtttgt gccccgctg
 301 tactccctgg tgttcactgt gggcctcttg ggcaatgtgg tgggtggtgat gatcctcata
 361 aaatacagga ggctccgaat tatgaccaac atctacctgc tcaacctggc catttcggac
 421 ctgctcttcc tcgtcacccct tccattctgg atccactatg tcagggggca taactggggt
 481 tttggccatg gcatgtgtaa gctcctctca gggttttatc acacaggctt gtacagcgag
 541 atctttttca taatcctgct gacaatcgac aggtacctgg ccattgtcca tgctgtgttt
 601 gcccttcgag cccggactgt cacttttggt gtcatcacca gcatcgtcac ctggggcctg
 661 gcagtgtctg cagctcttcc tgaatttatc ttctatgaga ctgaagagtt gtttgaagag
 721 actcttttga gtgctcttta cccagaggat acagtatata gctggaggca tttccacact
 781 ctgagaatga ccatcttctg tctcgttctc cctctgctcg ttatggccat ctgctacaca
 841 ggaatcatca aaacgctgct gaggtgcccc agtaaaaaaa agtacaaggc catccggctc
 901 atttttgtca tcatggcggg gtttttcatt ttctggacac cctacaatgt ggctatcctt
 961 ctctcttcct atcaatccat cttatttgga aatgactgtg agcggagcaa gcatctggac
1021 ctggtcatgc tggtagacaga ggtgatcgcc tactccact gctgcatgaa cccggtgatc
1081 tacgcttttg ttggagagag gttccggaag tacctgcgcc acttcttcca caggcacttg
1141 ctcatgcacc tgggcagata catccattc cttcctagtg agaagctgga aagaaccagc
1201 tctgtctctc catccacagc agagccggaa ctctctattg tgttttaggt agatgcagaa
1261 aattgcctaa agaggaagga ccaaggagat naagcaaaca cattaagcct tccacactca
1321 cctctaaaac agtccctcaa accttccagt gcaacactga agctcttaag aactgaaat
1381 atacacacag cagtagcagt agatgcattg accctaaggt cattaccaca ggccagggtc
1441 gggcagcgta ctcatcatca acctaaaaag cagagctttg cttctctctc taaaatgagt
1501 tacctatatt ttaatgcacc tgaatgttag atagttacta tatgccgcta caaaaaggta
1561 aaacttttta tttttatac attaacttca gccagctatt atataataa aacattttca
1621 cacaatacaa taagttaact attttatttt ctaatgtgcc tagttcttcc cctgcttaat
1681 gaaaagctt
```

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2968 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

```
1 atgacaacct cactagatac agttgagacc tttggtacca catcctacta tgatgacgtg
  61 ggctgtctct gtgaaaaagc tgataccaga gcaactgatg gccagtttgt gccccgctg
 121 tactccctgg tgttcactgt gggcctcttg ggcaatgtgg tgggtggtgat gatcctcata
 181 aaatacagga ggctccgaat tatgaccaac atctacctgc tcaacctggc catttcggac
 241 ctgctcttcc tcgtcacccct tccattctgg atccactatg tcagggggca taactggggt
 301 tttggccatg gcatgtgtaa gctcctctca gggttttatc acacaggctt gtacagcgag
 361 atctttttca taatcctgct gacaatcgac aggtacctgg ccattgtcca tgctgtgttt
 421 gcccttcgag cccggactgt cacttttggt gtcatcacca gcatcgtcac ctggggcctg
 481 gcagtgtctg cagctcttcc tgaatttatc ttctatgaga ctgaagagtt gtttgaagag
 541 actcttttga gtgctcttta cccagaggat acagtatata gctggaggca tttccacact
 601 ctgagaatga ccatcttctg tctcgttctc cctctgctcg ttatggccat ctgctacaca
 661 ggaatcatca aaacgctgct gaggtgcccc agtaaaaaaa agtacaaggc catccggctc
 721 atttttgtca tcatggcggg gtttttcatt ttctggacac cctacaatgt ggctatcctt
 781 ctctcttcct atcaatccat cttatttgga aatgactgtg agcggagcaa gcatctggac
 841 ctggtcatgc tggtagacaga ggtgatcgcc tactccact gctgcatgaa cccggtgatc
 901 tacgcttttg ttggagagag gttccggaag tacctgcgcc acttcttcca caggcacttg
 961 ctcatgcacc tgggcagata catccattc cttcctagtg agaagctgga aagaaccagc
1021 tctgtctctc catccacagc agagccggaa ctctctattg tgttttag
1 tttttcttct tctatcacag ggagaagtga aatgacaacc tcactagata cagttgagac
  61 ctttggtacc acatcctact atgatgacgt gggcctgctc tgtgaaaaag ctgataccag
 121 agcactgatg gccagtttg tggccccgct gtactccctg gtgttcactg tgggctctt
 181 gggcaatgtg gtggtggtga tgatcctcat aaaatacagg aggtccgaa ttatgaccaa
 241 catctacctg ctcaacctgg ccatttcgga cctgctcttc ctgctacccc ttccattctg
 301 gatccactat gtcagggggc ataactgggt ttttggccat ggcatgtgta agctcctctc
 361 aggggtttat cacacaggct tgtacagcga gatcttttcc ataactctgc tgacaatcga
 421 caggtacctg gccattgtcc atgctgtgtt tgcccttcga gcccgactg tcacttttgg
 481 tgtcatcacc agcatcgtca cctggggcct ggcagtgtca gcagctcttc ctgaatttat
 541 cttctatgag actgaagagt tgtttgaaga gactctttgc agtgctcttt acccagagga
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601 tacagtatat agctggagggc atttccacac tctgagaatg accatcttct gtctcgttct  
661 ccctctgctc gttatggcca tctgctacac aggaatcacc aaaacgctgc tgagggtgcc  
721 cagtaaaaaa aagtacaagg ccacccggct catttttctc atcatggcgg tgtttttcat  
781 tttctggaga ccctacaatg tggctatcct tctctcttcc tatcaatcca tcttatttgg  
841 aaatgactgt gagcggagca agcatctgga cctgggtcatg ctgggtgacag aggtgatcgc  
901 ctactcccac tgcctgcatg acccgggtgat ctacgccttt gttggagaga ggttccggaa  
961 gtacctgcgc cacttcttcc acaggcactt gctcatgcac ctgggcagat acatcccatt  
1021 ccttcctagt gagaagctgg aaagaaccag ctctgtctct ccacccacag cagagccgga  
1081 actctctatt gtgttttagg tcagatgcag aaaattgcct aaagaggaa gaccaaggag  
1141 atgaagcaaa cacattaagc cttccacact cacctctaaa acagtccttc aaacttccag  
1201 t

1 aatccttttc ctggcacctc tgatctcctt ttgaaattca tgttaaagaa tccctaggct  
61 gctatcacat gtggcatctt tgttgagtac atgaataaat caactggtgt gttttacgga  
121 ggatgattat gcttcattgt gggattgtat ttttcttctt ctatcacagg gagaagtga  
181 atgacaacct cactagatac agttgagacc tttggtacca catcctacta tgatgacgtg  
241 ggcttgctct gtgaaaaagc tgataccaga gcaatgtgtg cccagtttgt gccccgctg  
301 tactccctgg tgttactgt gggcctcttg ggcaatgtgt tgggtgtgat gatcctcata  
361 aaatacagga ggctccgaat tatgaccaac atctacctgc tcaacctggc catttcggac  
421 ctgctcttcc tgcctaccct tccattcttg atccactatg tcagggggga taactgggtt  
481 tttggccatg gcatgtgtaa gctcctctca gggttttatc acacaggctt gtacagcgag  
541 atctttttca taatctgct gacaatcgac aggtacctgg ccattgtcca tgcgtgtttt  
601 gcccttcgag cccggactgt cacttttggg gtcacacca gcatcgtcac ctggggcctg  
661 gcagtgttag cagctcttcc tgaatttatc ttctatgaga ctgaagagt gtttgaagag  
721 actctttgca gtgctcttta cccagaggat acagtatata gctggaggca tttccacact  
781 ctgagaatga ccactctctg tctcgttctc cctctgctcg ttatggccat ctgctacaca  
841 ggaatcatca aaacgctgct gaggtgcccc agtaaaaaaa agtacaaggc catccggctc  
901 atttttgtca tcatggcggg gtttttctt ttctggacac cctacaatgt ggctatcctt  
961 ctctcttctt atcaatccat cttatttggg aatgactgtg agcggacgaa gcatctggac  
1021 ctgggtcatg tgggtgacaga ggtgatcgcc tactccact gctgcatgaa cccggtgatc  
1081 tacgcctttg ttggagagag gttccgggaag tacctgcgcc acttcttcca caggcacttg  
1141 ctcatgcacc tgggcagata catccatttc cttcctagtg agaagctgga aagaaccagc  
1201 tctgtctctc catccacagc agagccggaa ctctctattg tgttttaggt agatgcagaa  
1261 aattgcctaa agaggaaagg ccaaggagat naagcaaaaca cattaagcct tccacactca  
1321 cctctaaaac agtccctcaa accttccagt gcaacactga agctcttaag acactgaaat  
1381 atacacacag cagtagcagt agatgcatgt accctaaggt cattaccaca gggcagggtt  
1441 gggcagcgta ctcatcatca acctaaaaag cagagctttg cttctctctc taaaatgagt  
1501 tacctatatt ttaatgcacc tgaatgttag atagttacta tatgccgcta caaaaaggta  
1561 aaacttttta tttttatac attaacttca gccagctatt atataataa aacattttca  
1621 cacaatacaa taagttaact attttatttt ctaatgtgcc tagttcttcc cctgcttaat  
1681 gaaaagctt

## (2) INFORMATION FOR SEQ ID NO:22:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2961 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

1 tctagagcca aggtcacgga agcccagagg gcatcttctg gctcgggagt agctctctgc  
61 tgtcttctca gctctgctga caatacttga gattttcaga tgtcaccaac caccaagaga  
121 gcttgatatg actgtatata gtatagtcac aaagaacctg aacttgacca tatacttatg  
181 tcatgtggaa aatttctcat agcttcagat agattatata tggagtgaag aatcctgcca  
241 cctatgtatc tggcatagtg tgagtcctca taaatgctta ctggtttgaa gggcaacaaa  
301 atagtgaaca gagtgaatcc cccactaag atcctgggtc cagaaaaaga tgggaaacct  
361 gtttagctca cccgtgagcc catagttaaa actctttaga caacagggtt tttccgttta  
421 cagagaacaa taatattggg tgggtgagcat ctgtgtgggg gttgggggtg gataggggat  
481 acggggagag tgggaaaaaa gggggcacag ggttaatgtg aagtccagga tccccctca  
541 catttaaaag tggtttaagt tggctttaat taatagcaac tcttaagata atcagaattt  
601 tcttaacctt ttagccttac tgttgaaaag ccctgtgatc ttgtacaaat catttgcttc  
661 ttggatagta atttctttta ctaaaatgtg ggcttttgac tagatgaatg taaatgttct  
721 tctagctctg atatccttta ttctttatat tttctaacag attctgtgta gtgggatgag  
781 cagagaacaa aaacaaaata atccagttag aaaagccctg aaataaactt tcagaccaga  
841 gatctattct ctagcttatt ttaagctcaa cttaaaagga agaactgttc tctgattctt  
901 ttcgcttcca atacacttaa tgatttaact ccaccctctc tcaaaagaaa cagcatttcc  
961 tacttttata ctgtctatat gattgatttg cacagctcat ctggccagaa gagctgagac  
1021 atccgttccc ctacaagaaa ctctccccgg taagtaacct ctgagctgct tggcctgtta  
1081 gttagcttct gagatgagta aaagacttta caggaaacct atagaagaca tttggcaaac  
1141 accaagtgtc catacaatta tcttaaaata taatctttaa gataaggaaa gggtcacagt  
1201 ttggaatgag tttcagacgg ttataacatc aaagatacaa aacatgattg tgagtgaag

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1261 actttaaggg gagcaatagt attttaataa ctaacaatcc ttacctctca aaagaaagat
1321 ttgcagagag atgaggtctta gctgaaatct tgaatctta tcttctgtca aggagaacta
1381 aacctctccc agtgagatgc cttctgaata tgtgccaca agaagtgtgt tctaagtctg
1441 gttctctttt ttctttttcc tccagacaag agggaaagcct aaaaatggtc aaaattaata
1501 ttaaattaca aacgccaaat aaaattttcc tctaataat cagtttcatg gcacagttag
1561 tatataattc tttatgggtc aaaattaaaa atgagctttt ctaggggctt ctctcagctg
1621 cctagtctaa ggtgcaggga gtttgagact cacagggttt aataagagaa aattctcagc
1681 tagagcagct gaacttaaat agactaggca agacagctgg ttataagact aaactaccca
1741 gaatgcatga cattcatctg tgggtggcaga cgaaacattt tttattatat tatttcttgg
1801 tgtgtatga caactcttaa ttgtggcaac tcaaactaca aacacaaact tcacagaaaa
1861 tgtgaggatt ttacaattgg ctgttgtcat ctatgacctt ccctgggact tgggcaccgg
1921 gccatttcac tctgactaca tcatgtcacc aaacatctga tgggtcttgc ttttaattct
1981 ctttttgagg actgagaggg agggtagcat ggtagttaag agtgagggt tcccgcattc
2041 aaaatcggtt gcttactagc tgtgtggctt tgagcaagtt actcaccctc tctgtgcttc
2101 aaggctcctg tctgcaaaat gtgaaaaata tttcctgcct cataaggttg ccctaaggat
2161 taaatgaatg aatgggtatg atgcttagaa cagtgtttgg catccagtat gtgccctcga
2221 ggccctctaa ttattactgg cttgctcata gtgcatgttc tttgtgggct aactctagcg
2281 tcaataaaaa tgttaagact gagttgcagc tgggcatggt ggctcatgcc tghtaatcca
2341 gcattctagg aggtgagggc agggagatcg cttgagccca ggagttcgag accagcctgg
2401 gcaacatagt gtgatcttgt atctataaaa ataaacaaaa ttagcttggg gtggtggcgc
2461 ctgtagtccc cagccacttg gaggggtgag gtgagaggat tgcttgagcc cgggatgac
2521 caggctgcag tgagccatga tctgtccact gcactccagc ctgggcgaca gagtgcagcc
2581 ctgtctcaca acaacaacag caacaaaaag gctgagctgc accatgcttg acccatttct
2641 ttaaaattgt tgtcaaaagt tcattctcct catggtgcta tagagcaca tagttttttt
2701 ggtgagatgg tgctttcatg aattccccca acagagccaa gctctccatc tagtggacag
2761 ggaagctagc agcaaacctt cccttcaact caaaacttca ttgcttggcc aaaaagagag
2821 ttaattcaat gtagacatct atgtaggcaa ttaaaaacct attgatgtat aaaacagttt
2881 gcattcatgg agggcaacta aatacattct aggactttat aaaagatcac tttttattta
2941 tgcacagggt ggaacaagat g
```

## (2) INFORMATION FOR SEQ ID NO:23:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3383 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

```
1 agaagagctg agacatccgt tcccctacaa gaaactctcc ccgggtggaa caagatggat
61 tatcaagtgt caagtccaat ctatgacatc aattattata catcggagcc ctgccaaaaa
121 atcaatgtga agcaaatcgc agcccgcctc ctgcctccgc tctactcact ggtgttcac
181 tttggttttg tgggcaacat gctggtcatc ctcatcctga taaactgcaa aaggctgaag
241 agcatgactg acatctacct gctcaacctg gccatctctg acctgttttt ccttcttact
301 gtccccttct gggtcacta tgctgccgcc cagtgggact ttggaaatac aatgtgtcaa
361 ctcttgacag ggctctattt tataggcttc ttctctggaa tcttcttcat catcctcctg
421 acaatcgata ggtacctggc tgtcgtccat gctgtgtttg ctttaaaagc caggacgggtc
481 acctttgggg tggtgacaag tgtgatcaat tgggtgggtg ctgtgtttgc gtctctccca
541 ggaatcatct ttaccagatc tcaaaaagaa ggtcttcatt acacctgcag ctctcatttt
601 ccatacagtc agtatcaatt ctggaagaat ttccagacat taaagatagt catcttgggg
661 ctggtcctgc cgctgcttgt catggtcatc tgctactcgg gaatcctaaa aactctgctt
721 cggtgtcgaa atgagaagaa gaggcacagg gctgtgaggc ttatcttcac catcatgatt
781 gtttattttc tcttctgggc tccctacaac attgtccttc tccctgaacac cttccaggaa
841 ttctttggcc tgaataattg cagtagctct aacagggttg accaagctat gcagggtgaca
901 gagactcttg ggtgacgca ctgctgcact aaccccatca tctatgcctt tgtcggggag
961 aagttcagaa actacctctt agtcttcttc caaaagcaca ttgccaaaac cttctgcaaa
1021 tctgtttcta ttttccagca agaggctccc gagcgagcaa gctcagttta caccgatcc
1081 actggggagc aggaaatctc tgtgggcttg tgacacggac tcaagtgggc tgggtgacca
1141 gtcagagttg tgcacatggc ttagttttca tacacagcct gggctggggg tgggggtggga
1201 gaggtctttt ttaaaaggaa gttactgtta tagagggtct aagattcatc cttttatttg
1261 gcattctgtt aaagttagat agatctttta agcccatcaa ttatagaaag ccaaatcaaa
1321 atatgttgat gaaaaatagc aaccttttta tctccccttc acatgcatca agttattgac
1381 aaactctccc ttcactccga aagttcttta tgtatattta aaagaaagcc tcagagaatt
1441 gctgattctt gagtttagt atctgaacag aaataccaaa attatttcag aaatgtacaa
1501 ctttttacct agtacaaggc aacatatagg ttgtaaatgt gtttaaaaca ggtctttgtc
1561 ttgctatggg gagaaaagac atgaatatga ttagtaaaga aatgacactt ttcattgtgt
1621 atttcccctc caaggatagg ttaataagtt tcaactgactt agaaccaggc gagagacttg
1681 tggcctggga gagctgggga agcttcttaa atgagaagga atttgagttg gatcatctat
1741 tgctggcaaa gacagaagcc tcaactgcaag cactgcatgg gcaagcttgg ctgtagaagg
1801 agacagagct ggttgggaag acatggggag gaaggacaag gctagatcat gaagaacctt
1861 gacggcattg ctccgtctaa gtcatgagct gagcaggggag atcctgggtg gtgttcgaga
```

1921 aggtttactc tgtggccaaa ggagggtcag gaaggatgag catttagggc aaggagacca  
1981 ccaacagccc tcaggtcagg gtgaggatgg cctctgctaa gctcaaggcg tgaggatggg  
2041 aaggaggagg gtattcgtaa ggatgggaag gaggaggta ttcgtgcagc atatgaggat  
2101 gcagagtcag cagaactcgg gtggatttgg tttggaaagt agggtcagag aggagtcaga  
2161 gagaatccct agtcttcaag cagattggag aaacccttga aaagacatca agcacagaag  
2221 gaggaggagg aggttttaggt caagaagaag atggattggg gtaaaaggat gggctctgggt  
2281 tgcagagcct gaacacagtc tcaccagac tccaggctgt ctttactga atgcttctga  
2341 cttcatagat ttccctccca tcccagctga aatactgagg ggtctccagg aggagactag  
2401 atttatgaat acacgaggta tgaggcttag gaacatactt cagctcacac atgagatcta  
2461 ggtgaggatt gattacctag tagtcatttc atgggttggg gggaggattc tatgaggcaa  
2521 ccacaggcag catttagcac atactacaca ttcaataagc atcaaaactct tagttactca  
2581 ttcaggggata gcactgagca aagcattgag caaaggggtc ccatataggt gaggggaagcc  
2641 taagaaacta agatgctgcc tgcccagtcg acacaagtgt aggtatcatt ttctgcattt  
2701 aacctgcaat aggcaagggt gggaaggagc atattcattt ggaaataagc tgccttgagc  
2761 cttaaaacc acaaaagrac aatttaccag cctccgtatt tcagactgaa tgggggtggg  
2821 gggggcgct taggtactta ttccagatgc cttctccaga caaaccagaa gcaacagaaa  
2881 aaatcgtctc tccctccctt tgaaatgaat ataccctta gtgtttgggt atattcattt  
2941 caaagggaga gagagagggt tttttctgtt ctttctcata tgattgtgca catacttgag  
3001 actgttttga atttggggga tggctaaaac catcatagta caggttaaggg gagggaatag  
3061 taagtgttga gaactactca gggaatgaag gtgtcagaat aataaggagt gctactgact  
3121 ttctcagcct ctgaatatga acggtgagca ttgtggctgt cagcaggaa gcaacgaagg  
3181 aaatgtcttt ccttttgctc ttaagtgtg gagagtcaa cagtagcata ggaccctacc  
3241 ctctgggcca agtcaaagac attctgacat cttagtattt gcatattctt atgtatgtga  
3301 aagttacaaa ttgcttgaaa gaaaatatgc atctaataaa aaacaccttc taaaataaaa  
3361 aaaaaaaaaa aaaaaaaaaa aaa

## (2) INFORMATION FOR SEQ ID NO:24:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 143068 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

1 aagcttcagt atgcaaat tcaatgacat gtgcctgtgg attctgaaaa ttcacagatc  
61 tgtctatcct tagctgagac tgaaggcatc tacttcccaa tgaccaaact ctgggtgctgt  
121 ggcgacactg agcaggaact ccattagaat atcaatatca ctctgcagac attccatgat  
181 tgaagctatg ttttctcttg ttgcaattac acttaattta ccaccagctg cttcaatgtc  
241 atgggctatc ttgaaaaatg aagctccttt cgtagtcaa ctggatgcaa gacacagcaa  
301 atgagaagtt actaaattgt tggagtcctc atagctactg cctgctttaa tgaacaaacc  
361 aattcttgat gcagggcata gttttccaaa ggagaaatca taaaaccatt tggaaatttg  
421 atgatctcaa ggtcctgatg atgtggagcc actcctatgg gggtagctgt ggccttaact  
481 ttgggggcaa ctttgaggga ataaagtctc aaaaagaggg aataaagtct caagattgtt  
541 cgtgacccat agtaacttct ggcttaaaag accattcggc aagtttttaa atgtattttc  
601 tataatttcc atgtagtctt ttatatttcc tatttcttat ttaaaacctc tatttttagt  
661 cgtttccttt gacactgctc tggcagggaa aggggtggca ctgcctcatt actgccaggt  
721 aggggtagaa gtccattatc cacttggtct ccattgatac ccaaagtggg gagaggctcc  
781 tgttactgct ggtgagggtg ggagtccccc cactaagttt ctgctaatac tgcctggtg  
841 gcttgctact attcccatga agcctccact gatactacat tacttttggg tgggtggcaa  
901 tctctgcct ctccactagc cctcctgctc taaaacaacc cgagtaggga gtgggaagga  
961 agctttgtta ctggtagggt ggagctgaag tccagacttg ccacattgtc cactgattgc  
1021 tacaggaggg aggaagcggg ccacattact gcctgatagg gatgaaagcc ccagctccct  
1081 acctggcctt cgctgatacc agcctgctac aggagtgaag agagatttga aggcctcaat  
1141 atagcctgtc gaggggtgaa gtcttgctcc caatgggcct ttagcagcat ggggtgggtg  
1201 tggggccatag ctgtctctgt actgcttggtc tagagtggag tatttgaggt ccaaaagtgt  
1261 tctgtctttc tagccctttg gttagaaaga gcagactttt gttggaagta tttttttgtg  
1321 tttacctgtt gtatttccag gttccttagt tctccagcac agtctgggat gtgtgagaca  
1381 cagagaaaaa ccagtgatgt tactaccgta tggtttcttg ggtcccaacg tctctagcta  
1441 atctgctcca ccttttggag ttttcttatt tgttttagat cagggattta gtcattatta  
1501 ataggagaaa tatggaaaaa tacttctact ctatcttctt ggaagttcct gtttattttt  
1561 tatgtccttt tcctctggct agaccgtaag agacttacga acaaaacctt tacacattct  
1621 actaaactca atgtccaaaag tttgtgaact tcttgaatat tgcttggtca tttccacccc  
1681 cagtcactga ctgaatctcc ctgctgtctg tctacaatgc caatgagctt ctggttaact  
1741 tcttctcatg catgcttagg caacaacttc ccagttttac tacacttgcc catccctagt  
1801 tttgttggtg cttaatccct tggcctagtg ccaccatact cctccagcag agcaaccaat  
1861 tcttacatta taggacagca catatccact aaaaacagtt catgccacac caaccacatt  
1921 tccctttgtc aaaaaaatta cttgatagat aattccagga atgcctgatg aagctgattg  
1981 acaacaagat atttggcaga ctctctgtg cctatacata ccttagcatg tggaaactaa  
2041 gtaatgagag gtccatttaa ttggattgaa ttgggctgga taggattgga ttgaaactctg  
2101 tgggatggct aggctaaatt agaaatgaag actagttaa cagcagtatc caaggatagt  
2161 tgactaatga gttaatttta ctctcaaaga cagtctttag tagtaagctg taatgcatta  
2221 tatcaacta ttttccagtc aatgatttat aagttacttg aataaggatg ctaaagatgt  
2281 gccttattga aatggcaatt agcacaaagt tgggaatgaa atctaattag ttaaataaca



2341 gaatcacata aaaaaggact tgaataaatg tagcatccta ccatgttcct ggatagaaag  
2401 actgctatcg taaagatatt cattctcctc aggttaaatt ataaactcaa tgcaattcaa  
2461 caggatttta aaaaactaga caaagtgatt ccaaagttac gtggaaaata aaatgtgagg  
2521 gaccaaacia tatttgaaaa agaaagagaa taaaatctca tccttcaga taccacaatg  
2581 tattataaag caataagtaat taacatgagg gcagaaatga gcaagcagaa gaacaaata  
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2701 ccttcaaatac agttgggaaa agatgggtta ttcaataaat ggtgttgggt aaaatttggt  
2761 atacattggt gagaaataaa gtgaaactcc tactttgtat catatgcaa aaatagattc  
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3541 ttataggaaa attgatagca ccaaatctct atcttaaaaa atgaaaaagg tttcaaatca  
3601 atgacctcag cttttacttt aagaaaaatg aaaaagcagg ataagctaaa gccaaagtaa  
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3721 aaaatcaaac caaacagctg attctttaag cagatctata aaattgataa aactctagcc  
3781 agattgatca agtaaaaaag agagaagaca caaattacca gtattaagaa tgagagaggc  
3841 aatatcacta cagatcctac agatataaaa agtataaggg catactttga ataattttat  
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4261 agcctgggca acagaacaag actcctgtctc aaaaaaaaaa aaaaaaaaaa aaattgaaat  
4321 tatagttaaa agtcttccca caaagcaaac tctagaccca gatggcttca atggttaaat  
4381 ctactggaca atcaaacagg aaacagtaat aattctccac aatgtctttc ataaaattga  
4441 tggggaggag atactctcca actcattcta tgaaactagc attaccctga taccaaaatg  
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4621 gttggttgcc cctccaggtc tgtaaatctc acctccttcc ccagagagca tccttcttaa  
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4741 agctcatcac cacaaccgat accacattgg ataatttcat gaattacttt agagcaaatg  
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5041 agaaataata ctttctctct ttcaatttgt tatgtttgct gaaacaaatc aaaggctgag  
5101 attgaaacac atgtacttcc aggtggatga ccttactact aagctcatca caacagcact  
5161 tacagctgaa gacccagag tcctacctaa cttttgtcac aaccagattt ttggccatgt  
5221 agttctgggc cttaccatta aagcagacag aagtcagagg aatgactcct ttcacttga  
5281 agtgagctgc aggttcttag gaaaggcaag atgcacattt ccttctgtg gagcataaag  
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6181 tccctgaaga tttggtggat tataaatgtg gatgtcttat tttcttgaaa gtgtgagctt  
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6841 tcaaatttgg tctgattttt taaatcgtag tacaatatat atgacataaa attcaccatt  
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7081 gtcgctatga atttgactac tctaggtaac ttatataagt ggaatcacag catttgccct  
7141 attatgactg gtttagttga cttagcacia cctcctaagg ctcaaccaca ttttagcatg  
7201 tgtcagaatt ttctttgttt ttaaggctga ataataattct gttgtatctg taaataacat  
7261 ctttattcat ttgtccatca acagactggt gagttcctcc catcttttga ctattgtgaa  
7321 aaatgctgct atgaacctga gtgtacagac atctggttga gtactgcttt caattcattg  
7381 tttatatgga tcatatggta attttatggt taattttttt ggaactgcta cattgttttc  
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7681 gccaccacc acgcccaggt aatttttgca ttttttttag tagtgatgag gtttcaccat  
7741 gttggtcagg ctgggtctga actcctgacc tcaagtgtac caccgcctc agcctcccaa  
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8041 gaaagtgttc tttatacctc ttgtatacta atcccttatc agatatgatt tataaatatt  
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8341 tttttgtaca tctgataaaa taagaatcca atttttattt tattttactt ttgtatgtg  
8401 gatattccat tccccacca ccattcattg aaaagactgt ccttttctta tctgaatgtc  
8461 ttggcaccct tgtaaaacat aatttgacca tataatgtgag ggtttatttc tgggctctct  
8521 attctattct attctattct attctattct attctattct attctattct attctattct  
8581 attggtccct atgtctttct ttattctagt accaccattt tgcctcatcat aactttgtag  
8641 taagtgttga agtcaggaat cgttaagacct ccagctttgt tcatattcaa ggttgttttg  
8701 attattcaag gtcccttgat agtccatag aatttcagga tggatttttc tatttctgca  
8761 aaaaaaaaaa aaaaaaaaaa aaaaatcatt gaaattttta aacagattgc attaaatctg  
8821 tagattgttt tgggtagtag tgacatttaa caacattaaa tcttccaatc aatgaactag  
8881 gctattttta tttatttttt ctgtttcttt gagctacttt tgtagttttc agtgataaag  
8941 tttttgctac ctggttaggt atacttctaa gtattttcta ctttttgatg ctatttgaca  
9001 ttgaatcggt ttcttaattt ggtggtagcg gggattgtgc attgttagta cataaaaatg  
9061 caactcattt tttgtgtgtt gattttgtat cctgcagctt taacaaattc atgttagttc  
9121 taacagactt attctatgaa tcattaggggt tttctacata aaagatcatg tcacctacaa  
9181 acagagataa ttttactcca ccccttcccgt ttgcaatgcc tttttatgct ttttctggcc  
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9361 taatatgttc tcaagggtta agaacttcag aagttttcta agcaagagac cattttatta  
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(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 149412 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

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| 89221 | gacttgggca  | ccagatgggg  | gtccacatgg  | acaactaagc  | caccaggatg  | atgtgggaaa  |
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120841 tttcctcagg agcatgtgat ctttgttctc ctttttgccc tttgaagcat gtgatctttg  
120901 tgcactactc cctgttctta caccctctcc ctttttgaaa tccttaataa aaacctgctg  
120961 gttttgcggc tcagggtggc atcacggtcc taccaatatg tgatgtcacc cctggaggcc  
121021 cagctgtaaa attcttctct ttgtactctt tctctttatt tctcagccag ccgacactta  
121081 tggaaaatag aacgaacctc cgtgaaatat tgggggtggg ttcccccgat atgtgatgtc  
121141 acccttggtg gccagctgtt aaaattcctc tctttgtact gtctctcttt atttctcagc  
121201 tggccaacac ttatggaaaa tagaaggaa cctatgttga aactgaggg tgggttctcc  
121261 caataaagtg gtaattgtga aatccacagt tctatggtta ggggaaaaagc acaaagcttg  
121321 caattgcagc agcaattgca ttgtcatttt aatcacactc atatttgtgt aaccaactta  
121381 gaataataacc aaagttagta tctgtgggac gttgtgaaag cccatttgca gggagcttcc  
121441 acatctaaca tcacctttga tattgtgtaa ttacaaaaca aaattcttga ttatcatagg  
121501 caaattcaag agtttctgccc ttctttagaa gactggacca aattccagca aggcctggag  
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121621 ataattattgt tttgtctctg tcttctgttc atagcctgta aaattggatg gaccaccaat  
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|        |             |             |             |             |             |             |
|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| 121741 | gggggatatt  | tagggagcct  | aaggctcgtg  | ggactgacca  | actcatcatt  | ccactggagg  |
| 121801 | ctatatgata  | aaacagcaaa  | ctgtttatca  | tgaatgcagg  | atgtgggcaa  | actcacgact  |
| 121861 | gctcccactg  | ccagaaggtt  | tgctgagggc  | aatcacttcc  | tgccaccagg  | ctccttgagg  |
| 121921 | ttatctactg  | ggacatctgg  | agaatgcagt  | cttgcaagcc  | tactgtggac  | tgagcagctg  |
| 121981 | atcccttctt  | ccacgcccc   | cttctcacta  | tctcttttgt  | ctaatacacta | cggagggttg  |
| 122041 | tgtaaagctc  | agggcccttg  | tccactagag  | gcaaagtgcc  | ccctgaccgc  | ttcttccaaa  |
| 122101 | tatactcttt  | tgtctcttgt  | cttttattcc  | cacgtttgcc  | ccctttgttc  | agtttcccta  |
| 122161 | ggtccatgtg  | ggttacatag  | tggaacctg   | aacaatgaca  | gaatcagggtg | ctctacagaa  |
| 122221 | ataacttttt  | aaggaaagat  | ttgggactta  | gagaccccag  | gagacataca  | caaaaatgat  |
| 122281 | aagaggatgt  | gccccaaaca  | gtcttaaagt  | tgtggcacag  | ggtgaggaag  | atgaagctgt  |
| 122341 | tactgaacct  | cagagagtga  | ctggtgttac  | agcaaaagtt  | agcaatggcc  | tgaaggagg   |
| 122401 | gtttctgaaa  | tcaaatatga  | atgattcccc  | ctcagggaa   | ccaaccttgg  | gaactactgc  |
| 122461 | atggttctct  | gtatgggaaa  | atatacttaa  | tgaggataaa  | attgtgaaat  | atcacaggaa  |
| 122521 | gcatcctgca  | tctagtcaat  | cttctgtttc  | tggggtggcc  | tgtgcagctg  | tgagggcaga  |
| 122581 | ggcccaacca  | tcctgggtgag | tgccacacag  | ggactgagat  | ccagccacac  | ctaccaggcc  |
| 122641 | atgctctggg  | aaggggtggg  | gacctgggca  | aaggacacct  | ctctaggact  | gcacagagac  |
| 122701 | ctttgtgggt  | gggtgggaca  | ttctgtgat   | ggccttctgg  | ctgggcaacta | tgaatgtctc  |
| 122761 | tgaagatttt  | tccttgcaact | gttgcaactaa | ccccagtcct  | ctatcactgc  | cccttccctc  |
| 122821 | tgggcgactt  | cactgatgtt  | gtggccatgt  | gaattctctg  | gccaatgaaa  | tgataaagat  |
| 122881 | gatattggcct | ctgccaaagca | gacactgtaa  | gtattattgt  | atgatgtctt  | tgtctctttt  |
| 122941 | tttaaagtta  | aagcagttta  | ttaaagaaat  | aaaggaataa  | aagaatagca  | ctccataggc  |
| 123001 | agagcagctg  | cctctgtctc  | ttatattttc  | ccctctgcct  | caagcccaac  | atgcccaaaa  |
| 123061 | ttggggctgc  | tggttcagcc  | tggttctcag  | aataaagaca  | tgagccacag  | atccattgct  |
| 123121 | gacctatgat  | ggagatggac  | acaagagaga  | aacacatttt  | tgtcatgtta  | gccactaaga  |
| 123181 | tattgtattg  | gaggccattt  | gctacagcaa  | tataacctag  | cgtgaacaga  | gagacacagc  |
| 123241 | gatgttccat  | ttcttttcaa  | cctggaacag  | gagaatttca  | taggtgggac  | tcaatttcac  |
| 123301 | tttagtatct  | tatttagaca  | agaaagttca  | tactgttcaa  | atgtcatgtt  | taagagtgtc  |
| 123361 | ggcattatca  | ctgctgtggc  | taccccatca  | gatgttgtct  | actgactaat  | cttctcatgt  |
| 123421 | tagtgaggat  | ggacaacata  | tcaggccata  | attcaaaagta | gcaaatagga  | aagagcttca  |
| 123481 | atcctagcat  | tatgggacct  | taattaatgt  | cccttctctga | cagggttcag  | aggcttttgc  |
| 123541 | aggcagcagc  | agagctattc  | atctcactga  | cagtggggaa  | catggccaaa  | tggttgcccc  |
| 123601 | cacaatggag  | gcagagtttc  | aggacacttg  | tctgatctct  | gcccttgaag  | gaacagtctc  |
| 123661 | accctgattg  | acacttttgc  | ctgttatgtc  | caaagaacca  | atggaaaagc  | aggaaaattt  |
| 123721 | ttccttcttc  | atttctcttc  | tcattattta  | aaattattct  | gtcttcaact  | ctctctcctt  |
| 123781 | ttctctgctt  | cctacttagc  | tctttagaaa  | tgcaattata  | atcttttatc  | tcccttcac   |
| 123841 | cagacactcc  | caacagggca  | agttcatcta  | actatgtgct  | cttagttaga  | cgctacagag  |
| 123901 | cagaactctc  | tcccaccaag  | agactacctt  | gagacataac  | agtcaattca  | caagccaaaa  |
| 123961 | tatgcccgct  | atgaaactct  | cccatctgga  | aatttttttg  | ctgcttttac  | aactagtgtt  |
| 124021 | tgccacacaa  | ggcaccagca  | gtaaccaact  | caactgcctg  | gtagacaagg  | caccaaagcc  |
| 124081 | agtacccaga  | ccctctacct  | gctcacttcc  | tgccttgcat  | gccacgcccc  | ccatttaaaa  |
| 124141 | gcctctgctt  | tctgtctcaa  | aggtgaagca  | gttaccctta  | aggaaagaa   | cctgtacttc  |
| 124201 | ttcccctaag  | gtagctttgg  | aataaaaagtc | actttatacc  | aaacctagct  | ctgtttaatt  |
| 124261 | agactctgca  | agtgtatgag  | aactgaacct  | acatttcagt  | tataattcct  | atgcttgttc  |
| 124321 | ttcctgcccc  | gccttgggga  | cacgcacaca  | ctcccaggca  | catacatgca  | cgtgcactga  |
| 124381 | gacagctatg  | tgaataacca  | acaagatccc  | cttaggaaaa  | ccggtgcttg  | gcctggcctt  |
| 124441 | aaattccaga  | cccttgggca  | tcatacccaa  | gactgcaaga  | aagaggaggg  | gctggacactg |
| 124501 | aaaaacttgg  | aagggaaggt  | ccaactgtac  | aggtattttg  | tcaggcattg  | gatttcagta  |
| 124561 | taaaattcta  | gaaaagatga  | gtgacacttt  | ataaggagag  | aatatcaaca  | aaatttctca  |
| 124621 | ttttacttct  | tgctaagacg  | acagcaggga  | attgtaagca  | gatggatggg  | caatccccac  |
| 124681 | cttcagcagg  | ggaggccaag  | gccccaacac  | acctggggag  | aagagctggg  | ggcagtgaat  |
| 124741 | ggctgaggct  | ttcttgggga  | gctgggccat  | cttctctggg  | tttacttcc   | gaggaaattca |
| 124801 | caggcttcca  | ggagggtctg  | gggacacaa   | agagcaagag  | attcagaaac  | tgatttcttc  |
| 124861 | cattaaacca  | gttatttaat  | ccaataaatc  | aaagagaata  | ctaagagttt  | tctctgcctt  |
| 124921 | tctcccatca  | ctgagtcagt  | gcttgccaca  | ctcatattcc  | cactccctta  | ctcctagcga  |
| 124981 | ctacggtggt  | caaggagacc  | agagtctagc  | cctcaccagc  | cagggtgttt  | ccctgtctgt  |
| 125041 | gcctgagaga  | cacaaccacc  | ctgcacttgt  | ctctgattga  | atcgactgtc  | acatttctca  |
| 125101 | gttcacaaga  | cattgtgtgt  | cctctagctt  | ctcccggaat  | gtgaacctgt  | ttgcaatcat  |
| 125161 | gttcacctgc  | agattcactc  | attcattcac  | agatccttac  | tgagcacctg  | ctttgtgtga  |
| 125221 | gttgctgtgc  | taagtgtctg  | ggacacagca  | tgatagact   | ggcctgccct  | caagaagcat  |
| 125281 | gtggtctatg  | cagtcctgag  | ctggctgtct  | acaagaagag  | ccctgtagcc  | atatcttcca  |
| 125341 | gagggtggtc  | ctgacctgca  | tcacagtgtg  | ctgagttgtt  | tgtcaatata  | gaaaagggtt  |
| 125401 | tctcaacctt  | ggcactattg  | acatttgggg  | cctgataata  | accctttatt  | gcagggggct  |
| 125461 | ggctgtgctt  | tgtttagtag  | catccctggc  | ctctacctat  | ttgttaccag  | cagcaccttc  |
| 125521 | tatgtttgaa  | gaatcaaaaa  | aatgcttctc  | acattgtcaa  | atatcccttc  | aggggaaaaa  |
| 125581 | ttgtctctca  | ttgaaaacta  | ccgataaaga  | catttctggc  | cctgccccca  | tccttggacc  |
| 125641 | aacagcatcc  | ctaattgccc  | caactctggg  | tgagggacca  | ggaataggaa  | tctgaatgat  |
| 125701 | tgacgtgcac  | agggagctgt  | gcacactgaa  | atcccacagt  | tatcacggg   | agccttacaa  |
| 125761 | tactctgtga  | tgtcttctaa  | atatttttaa  | gggattaaat  | taatatcaac  | atatttccct  |
| 125821 | ggttaagatg  | tgttttctca  | cacttgaatt  | tttttgagat  | ttgttttct   | ctatagtgtg  |
| 125881 | catctatggt  | aactgtctag  | aatcagattt  | tttttttttt  | ttttttgagg  | aagggtcttt  |
| 125941 | cggtgtcacc  | taggtgttag  | tgacgtgtga  | caatcatagc  | tcactgcagc  | ttcaaccttc  |
| 126001 | tggtatcaag  | caatcctcct  | atttcaggct  | ctcaagtagc  | tggtgactga  | ggtgcttgac  |
| 126061 | accacaccag  | gctaattttt  | aaaattattt  | ttgtagaaca  | aggtctctct  | aggtgtgcca  |
| 126121 | cattggtctc  | aaactcccg   | gctcaagcca  | tcctccacc   | tctgttctcc  | aagggtgttg  |
| 126181 | gatgacaggt  | gtgagccatc  | acacctggct  | ggttttgtca  | tttctcaatg  | catatgtata  |



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|        |             |             |            |             |             |            |
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| 126241 | tatgcacctt  | tcattttact  | gaataaaatg | gattatcagt  | ttccaaagat  | ttcatgacag |
| 126301 | tgccgtcact  | atccgtacta  | taaaaattat | aaaaatttat  | tacatactgc  | tctattttat |
| 126361 | tctctaatta  | ttttatcaat  | gagattataa | tttcctgaac  | tgtaaaagaga | tattatcttt |
| 126421 | ccttaacatt  | tttacacctg  | tgttcgttcc | tagaatgctg  | tttggccctc  | aaaccttgac |
| 126481 | cttcacccat  | ggtggtttct  | cggggatgct | agctagggtc  | tacttacggg  | aggttgagca |
| 126541 | ctttttcaga  | ttagtaaatg  | ctgcgacata | ctgtggtccc  | aaatattttt  | catatgttgt |
| 126601 | tttgccatgg  | agtctggcca  | gacactcagt | gttggtcattg | aacagaaggt  | ttttggtttc |
| 126661 | agactggaat  | aagcaaaact  | tgtccgggca | gtcagatcca  | tttctcccaa  | atttagcctg |
| 126721 | cgacaaaagg  | gcagacagtg  | agtagctaag | gaaaagagga  | atttgtgggt  | taaaggaggc |
| 126781 | aaaggggtat  | ttcttcacc   | caagaacagc | cctgagaaaa  | ccatggggca  | gaaggagctg |
| 126841 | agttctggag  | tcattccacc  | tccttagtgg | agtcccccac  | cccacactcc  | tggtggcagg |
| 126901 | cccgccttgg  | gcagcatcca  | ggcctcacac | cacttctggt  | cctacctcct  | accatctgcc |
| 126961 | atctttcctt  | ccttcttaac  | ctgtgacctt | ttcccataca  | acttcttatg  | ggtgacaagg |
| 127021 | caacaatgga  | ggggttttga  | gatctgacct | cacaagtcaa  | ttgtctcagg  | cattctaata |
| 127081 | tgcagctctt  | ctagagaggg  | aggctgctag | gaaaaccagg  | gtctcagccac | taaccagctc |
| 127141 | agtgtgcagg  | tcggtcaccc  | tgcttccctc | acacagttcc  | tgctctgtcc  | caggctccca |
| 127201 | tgtggggaga  | ctgagaccca  | aacccctcag | tcacggcagc  | tctctcacca  | gcaccactgt |
| 127261 | gtgtgcacat  | taagagctcc  | ataaaggcca | gttatggtgg  | ccagtcttgg  | tattccttag |
| 127321 | ttgttttctt  | caaaaagcaca | cagagacatg | atgttatatg  | ataaaaaatg  | aagtcttaag |
| 127381 | aaaatcccag  | attttaagaa  | aattttggga | tttcgttcaa  | atcacattta  | gagagcccta |
| 127441 | aatctatagg  | gcaccttctg  | agtttgctgt | tttagaggcc  | tggtctagag  | cactgttcac |
| 127501 | tcggcccgag  | ttcaggaaat  | gtcaccttag | taaaaagcac  | tatactaagt  | catgtgggag |
| 127561 | gaaggctcag  | tggcttcttc  | atttgccaga | agaacagcag  | gagggaaaaa  | gacagctctt |
| 127621 | gagccaggca  | gtgatggcaa  | caaggccagg | gcacagagtc  | tcagcagaaa  | tggtgtgagt |
| 127681 | cccagaaagc  | ccagagtcaa  | aagcctctgt | tggtcttgtt  | gacactctgg  | gcaacgccac |
| 127741 | agcatgaagc  | caatactctc  | accatgagct | tcaagtagag  | gactagagag  | gatcgagtgg |
| 127801 | gctggtgcac  | ctagctctgt  | gatctctcct | cctaactatg  | gcccacacag  | ctaagaagc  |
| 127861 | actagaagcc  | ctgtgttcca  | tacctgttgg | tggaagcaaca | cctgtttcag  | gcgttccacc |
| 127921 | ttatccatcc  | gagacaccac  | ggcatgatcc | ggggccatgg  | caagatggca  | gcttctagcc |
| 127981 | tcagtcacag  | gcttccgttt  | gccatcgagg | cacagcagcg  | caaaagtctgc | cagcttcaaa |
| 128041 | tccttagccc  | atgcgtcatt  | gttatttctt | ggggagaaaa  | agaaggtggc  | atcatccacg |
| 128101 | ctccccctgc  | ttagccaaga  | agtctcttct | gggtgggtgt  | ggccattcca  | ctgacctccc |
| 128161 | aaatgcacac  | actggggttg  | tggtgatgtg | aggaacagag  | aaggagcttc  | atcctacaca |
| 128221 | agctgtacaa  | acttcaaata  | taccaaatat | tagtgctgtg  | tcctatgcaa  | ggaatgttat |
| 128281 | tcagcaataa  | aagggagtga  | agttcttgta | cactctgcaa  | tatgcatgaa  | cctcgaaaaa |
| 128341 | gatgctaaat  | gaaagaagcc  | agtcacaaaa | gaccacacaa  | taggtctggc  | acggtggctc |
| 128401 | atgcctgtaa  | tcccagccct  | ttggaggcca | aggtgggaga  | atcacttgaa  | gctaggagtt |
| 128461 | catgaccagc  | ttgggcaaca  | tagcaagacc | tcatctcaaa  | aaaaaaaacc  | caccacatat |
| 128521 | tatatgactc  | catttatatg  | aaatgtccag | aataggccag  | cctatggaga  | cagaaagtgg |
| 128581 | attgatggtt  | gccaatgctg  | aagaaggata | gggcaatgac  | tgataaatgg  | tgcaagggtt |
| 128641 | tctttatggg  | aggatacaag  | cggtcttaga | ttggattgtg  | ttgatggctg  | cacaactctg |
| 128701 | tgaatgtgct  | ggagatcact  | gaattgtaca | ctttgcatgg  | gtggattttt  | tagtatatga |
| 128761 | attctacctc  | aataaagctg  | tttagagttc | ttattttttt  | aaagaagaaa  | accctccacc |
| 128821 | tatgcccata  | ttttcagtga  | gttccagaaa | agaatagat   | ggtttacatt  | caaggagaaa |
| 128881 | ttggtttctc  | ctccctttca  | tattcaaatg | ctattagtgt  | aaccagagaa  | aggaaggaaa |
| 128941 | cttttatagg  | tttatcaaat  | atatacagcc | aattctaaca  | aaatacagtt  | gtaaagtacc |
| 129001 | ggagaaaagt  | aaaattaaat  | ttgacatcaa | tctgatccct  | ggagattact  | tcagttaatg |
| 129061 | gcttgtaaat  | tctaaatgta  | attgtatgca | tgtctatgtt  | tgtagcagatg | ccggctcatt |
| 129121 | gttccggctc  | ccgtttgtct  | ctctgctctc | tccctttaag  | aaagcacttt  | attcattctc |
| 129181 | ttggattcct  | ctatttgata  | ttgaaataat | ttcaaattta  | catgtcttgt  | tttaattctc |
| 129241 | gtcccaagag  | acactagaag  | gagcagaagc | agaagggaga  | agtggctgag  | actgcagtga |
| 129301 | ttactgaagg  | agggaggccg  | aaagtggaga | cagttctttc  | tcaggaaaca  | gaatagcaag |
| 129361 | tcacctgctg  | agacttgggg  | gttggaatgc | tgaagtgggg  | ctaaggagac  | agatgcagat |
| 129421 | tggaaagtag  | caaatggctg  | aggaccagga | gagagagtga  | ttgttcaaac  | attggctgga |
| 129481 | agattatctt  | ccatcatctg  | caaccacctg | taattttgtt  | cccactaact  | cccaaggagt |
| 129541 | ctccagacca  | aggctcacat  | ggggatgaat | gaaggcctct  | acttcccttt  | tcataaaggg |
| 129601 | aggcttcatt  | tgcatatggt  | caccagtttt | gtagcatcat  | ccacagtttc  | caataggcat |
| 129661 | gcatgatctc  | atgtgggcag  | acagtgtgtt | tctgtgggtg  | actagaggaa  | gccagggaga |
| 129721 | catttgctac  | tgagcatggc  | tagtatctgt | gtgtgtgaga  | gtgagtgtgt  | gtgtgtgtgt |
| 129781 | gtgagagaaa  | gagagagagt  | gtgtgtgtat | gaatttcggt  | tcaaaatcca  | tatgacacct |
| 129841 | acagatgtta  | tcatgttgct  | tattgagata | aagaattttg  | gagttctttt  | aatcacaaat |
| 129901 | atggaaaatg  | ttataaaaac  | ttcccaaagg | caaacttgaa  | cactaagatg  | tgttgtgatg |
| 129961 | ccaaagactc  | tgctttgaag  | gagaaaagga | aacaccttca  | cctaccatca  | gtgttctgca |
| 130021 | agacagtgac  | atctttcaca  | aatgcaacgt | ctccagcatt  | ctcagccagg  | cacctaaaat |
| 130081 | gttccagaaa  | atatacacat  | aattacagaa | gagaaactag  | tggggctttc  | ataaatattt |
| 130141 | gtaaatgtga  | ttccaaaaac  | tgaatatggt | aagtaaacat  | ctaaaagaca  | actattttct |
| 130201 | ggaatttact  | gtttacagcg  | gcagattgaa | cacaggtgta  | ctgcctctcc  | ttttaaaaac |
| 130261 | ctatataaaa  | gacattacaa  | aaccaagaaa | tctaaaagata | tgcgacccag  | gaaacaggca |
| 130321 | atctaaccatg | aagtaagaca  | aaggaaagca | ccaaaataat  | ggtcaacagg  | acccccagga |
| 130381 | ccacagatgt  | gcaggcggcc  | tacacagcaa | ccagtccaaa  | ctgcagcagg  | aagatggatg |
| 130441 | cccttctggag | cagcacttcc  | aagtaaatga | tgaaactgtg  | atagcaccga  | gagagagaga |
| 130501 | gagagagaga  | gagagagaga  | gtgtgtgtgt | gtgtgtgtgt  | gtgtgtgtgt  | gtgtgtgtgt |
| 130561 | gtgtgtgtgt  | atgcatgttg  | ttaggagatt | tacattactg  | gcagacagtt  | tggggatgag |
| 130621 | atagtgtatg  | gtttttttta  | gtgcagaaaa | ttaagcaaat  | aagaaaagac  | atttatgaac |
| 130681 | tccagagtaa  | acaaaaagtt  | tgtacaataa | gggaatatata | atatgagaat  | aacgcttaca |



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|        |             |             |             |             |             |            |
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142561 taaaacctct atgaaccag aaaccggaaa cacaaccag cacaatctgt tctgcatgag
142621 cacatgtgtc ttggaggact ggaggacgca ttgccaagca cctaggcatg ggtgtctatg
142681 aggggaagag aaaggcagta ggcacaggag gtttgaagaa aactgatcat ttaaaatag
142741 aaagatcata aaatcagagc tgtgccctgt aggaatcttg aaaatggtct gccatgaact
142801 taggaatcta attagctcaa aggtcagagt catgatcaag taagataaaa ggggtcagta
142861 cccacggctc attaccctgc tcttaccaaa cactgtgtct tctctgataa aagccacgtc
142921 tccagccccg tctctcagac acctgtgaaa agagaaacca tcaggggtaa gcacaggcag
142981 ccctccccag cccctcctg tggaaacagta gccctggcac tcagcatcta tgggtttcta
143041 ctccctgcag ggcagggtc tgaagctt

```

## (2) INFORMATION FOR SEQ ID NO:26:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5133 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

```

1 cctctttcac cctgtctagg ttgccagcaa atcccacggg cctcttgacg ctgcccctgg
61 gcccacaggt ccctcagatg ctggaaggat gaaggattcc tgcactactg tgatggccat
121 ggcgtgctg tctgggttct tttcttcgc gccggcctcg agctacaacc tggacgtgcg
181 gggcgcgcg agcttctccc caccgcgcgc cgggaggcac tttggatacc gcgtcctgca
241 ggtcggaaac ggggtcatcg tgggagctcc aggggagggg aacagcacag gaagcctcta
301 tcagtgccag tcgggcacag gacactgcct gccagtacc ctgagagggt ccaactatac
361 ctccaagtac ttgggaatga ccttggcaac agacccaca gatggaagca ttttggcctg
421 tgaccctggg ctgtctcgaa cgtgtgacca gaacacctat ctgagtggcc tgtgttacct
481 ctccgccag aatctgcagg gtcccatgct gcaggggcgc cctggttttc aggaatgtat

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541 caagggcaac gtagacctgg tatttctgtt tggatggttc atgagcttgc agccagatga  
601 atttcagaaa attctggact tcatgaagga tgtgatgaag aaactcagca acactctgta  
661 ccagtttgct gctgttcagt ttcccaaaag ctacaaaaca gaatttgatt tctcagatta  
721 tgttaaatgg aaggaccctg atgctctgct gaagcatgta aagcacatgt tgcgttgac  
781 caataccttt ggtgccatca attatgtcgc gacagagggtg ttccgggagg agctgggggc  
841 ccggccagat gccaccaaag tgcttatcat catcacggat ggggaggcca ctgacagtgg  
901 caacatcgat gcggccaaag acatcatccg ctacatcatc gggattggaa agcattttca  
961 gaccaaggag agtcaggaga ccctccacaa atttgcata aaaccgcga gcgagttgt  
1021 gaaaattctg gacacatttg agaagctgaa agatctattc actgagctgc agaagaagat  
1081 ctattgtcatt gagggcaciaa gcaaacagga cctgacttcc ttcaacatgg agctgtcctc  
1141 cagcggcatc agtgctgacc tcagcagggg ccatgcagtc gtgggggagc taggagccaa  
1201 ggactgggct gggggcttcc ttgacctgaa ggcagacctg caggatgaca catttattgg  
1261 gaatgaacca ttgacaccag aagtgaagagc aggtattttg ggttacaccg tgacctggct  
1321 gccctcccgg caaaagactt cgttgctggc ctccggagcc cctcgatacc agcacatggg  
1381 ccgagtgtcg ctgttccaag agccacaggg cggaggacac tggagccagg tccagacaat  
1441 ccatgggacc cagattggct cttatttcgg tggggagctg ttggcgctgc acgtggacca  
1501 agatggggag acagagctgc tgcgtattgg tgcccactg ttctatgggg agcagagagg  
1561 aggcggggtg tttatctacc agagaagaca gttggggttt gaagaagtct cagagctgca  
1621 gggggacccc ggctaccac tcggggggtt tggagaagcc atcactgctc tgacagacat  
1681 caacggcgat gggtcggtag acgtgctgtt gggggccctc ctggaggagc agggggctgt  
1741 gtacatcttc aatgggaggc acggggggct tagtccccag ccaagtccgc ggaatagaag  
1801 gaccaagtgt ctctcaggaa ttcatgggtt tggacgctcc atccatggg tgaaggacct  
1861 tgaaggggat ggcttgccag atgtgctgtt gggggctgag agccagatga tgcgtctgag  
1921 ctcccggccc gtggtggata tggtcaccct gatgtcctc tctccagctg agatcccagt  
1981 gcatgaagtg gagtgtcct attcaaccag taacaagatg aaagaaggag ttaatatcac  
2041 aatctgttcc cagatcaagt ctctctaccc ccagtccaa ggccgcctgg ttgccaatct  
2101 cacttacatc ctgcagctgg atggccaccg gaccagaaga cgggggttgt tcccaggagg  
2161 gagacatgaa ctgagaagga atatagctgt caccaccagc atgtcatgca ctgacttctc  
2221 atttcatttc ccgtatgtg ttcaagacct catctcccc atcaatgttt ccctgaattt  
2281 ctctctttgg gaggaggaag ggacaccgag ggaccaaagg gcgcagggca aggacatacc  
2341 gccatcctg agaccctccc tgcactcggg aacctgggag atcccttttg agaagaactg  
2401 tggggaggac aagaagtgtg agggaaaactt gagagtgtcc ttctctcctg caagatccag  
2461 agccctgcgt ctaactgctt ttgccagcct ctctgtggag ctgagcctga gtaacttga  
2521 agaagatgtt tactgggtcc agctggacct gcacttcccc ccgggactct ccttcgcaa  
2581 ggtggagatg ctgaagcccc atagccagat acctgtgagc tgcgaggagc ttctgaaga  
2641 gtccaggctt ctgtccaggg cattatcttg caatgtgagc tctcccatct tcaaagcagg  
2701 ccaactcggt gctctgcaga tgatgtttaa tacactggta aacagctcct ggggggactc  
2761 ggttgaattg cacgccaatg tgacctgtaa caatgaggac tcagacctcc tggaggacaa  
2821 ctacagccact accatcatcc ccactctgta ccccatcaac atcctcatcc aggaccaaga  
2881 agactccaca ctctatgtca gtttcacccc caaaggcccc aagatccacc aagtcaagca  
2941 catgtaccag gtgaggatcc agccttccat ccacgaccac aacataccca ccctggaggc  
3001 tgtggttggg gtgccacagc ctcccagcga gggggccatc acacaccagt ggagcgtgca  
3061 gatggagcct ccggtgccct gccactatga ggatctggag aggtctcccg atgcagctga  
3121 gccttgtctc ccgggagccc tgttccgctg ccctgttgtc ttcaggcagg agatcctcgt  
3181 ccaagtgtac gggactctgg agctggtggg agagatcgag gcctcttcca tgttcagcct  
3241 ctgcagctcc ctctccatct ccttcaacag cagcaagcat ttccacctct atggcagcaa  
3301 cgcctccctg gccaggttg tcatgaaggt tgacgtgggt tatgagaagc agatgctcta  
3361 cctctacgtg ctgagcggca tcggggggct gctgctgctg ctgctcattt tcatagtgtc  
3421 gtacaagggt ggtttcttca aacggaaact gaaggagaag atggaggctg gcagaggtgt  
3481 cccgaatgga atccctgcag aagactctga gcagctggca tctgggcaag aggtgggga  
3541 tcccggctgc ctgaagcccc tccatgagaa ggactctgag agtgggtggg gcaaggactg  
3601 agtccaggcc tgtgaggtgc agagtgccca gaactggact caggatgccc agggccactc  
3661 tgccctctgc tgcatctgc cgtgtgccct cgggcgagtc actgcccctc cctggccctc  
3721 agtttcccta tctcgaaact ggaactcatt cctgaatgtc tcccttgag gctcataggg  
3781 aagacctgct gagggaccag ccaagagggc tgcaaaagt agggctgtgc attaccagac  
3841 ggttcaccag cctctcttgg ttccttctct ggaagagaat gtctgatcta aatgtggaga  
3901 aactgtagtc tcaggacctg gggatgttct ggccctcacc cctgcccctg gatgtccaca  
3961 gatgcctcca cccccagaa cctgtccttg cacactcccc tgcactggag tccagtctct  
4021 tctgctggca gaaagcaaat gtgacctgtg tcaactagtg actgtggcac acgcttgtt  
4081 cttggccaaa gaccaaattc cttggcatgc cttccagcac cctgcaaaat gagaccctcg  
4141 tggccttccc cagcctcttc tagagccgtg atgcctccct gttgaagctc tggtgacacc  
4201 agcctttctc ccaggccagg ctccctctct tcttctgca ttcaccaga cagctccctc  
4261 tgccctgaacc ttccatctcg cccacccctc cttccttgac cagcagatcc cagctcacgt  
4321 cacacacttg gttgggtcct cacatctttc acacttccac caccctgcac tactccctca  
4381 aagcacacgt catgtttctt catccggcag cctggatgtt ttttccctgt ttaatgattg  
4441 acgtacttag cagctatctc tcagtgaact gtgagggtaa aggtataact tgcctgttct  
4501 accttgggat gacgcccgat gatagttag ggcgtgggac atctagtagg tgcttgacat  
4561 aatttcaactg aattaatgac agagccagtg ggaagatata gaaaaaggag gccggggctg

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4621 ggcgcggttg ttcacgcctg taatcccagc actttgggag gccaaaggagg gtggatcacc  
 4681 tgaggtcagg agttagaggc cagcctggcg aaaccccatc tctactaaaa atacaaaatc  
 4741 caggcgtggt ggcacacacc tgtagtccca gctactcagg aggttgaggt aggagaattg  
 4801 cttgaacctg ggaggtggag gttgcagtga gccaaagattg cgccattgca ctccagcctg  
 4861 ggcaacacag cgagactccg tctcaaggaa aaaataaaaa taaaagcgg gcacgggccc  
 4921 ggacatcccc acccttggag gctgtcttct caggctctgc cctgccctag ctccacaccc  
 4981 tctcccagga cccatcacgc ctgtgcagtg gccccacag aaagactgag ctcaagggtg  
 5041 gaaccacgtc tgctaacttg gagccccagt gccaaagcaca gtgcctgcat gtatttatcc  
 5101 aataaatgtg aaattctgtc caaaaaaaaa aaa

## (2) INFORMATION FOR SEQ ID NO:27:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1388 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

1 ggatccagaa ggtcattca atcagttctc agtcttatca ggtctaagtt cctttcttat  
 61 caggtcctaa aggcctaatac ttatcattgt gacaaagata actgtagagt ctgttaaact  
 121 ttttttttaa taacatgaag attatgattt atagctgaat ttctcccttt tattccaatt  
 181 caacaatttt catggctttt tgtgtttgtt ttgttctgga cataattaca gaaaattacc  
 241 tgaagagttc caacctgagg cctcctcatg gatgggtcaa acgtgacatc atttgttgtt  
 301 gaggaaccca cgaacatctc aactggcagg aacgcctcag tcgggaatgc acatcggcaa  
 361 atccccatcg tgcactgggt cattatgagc atctccccag tggggtttgt tgagaatggg  
 421 attctcctct ggttctctgt cttccggatg agaagaaatc ccttcaactgt ctacatcacc  
 481 cacctgtcta tgcagacat ctcactgtct ttctgtattt tcatcttgc tatcgactat  
 541 gctttagatt atgagctttc ttctggccat tactacacaa ttgtcacatt atcagtgact  
 601 tttctgtttg gctacaacac gggcctctat ctgctgacgg ccattagtgt ggagaggtgc  
 661 ctgtcagtc tttaccccat ctggtaccga tgccatcgcc ccaagtacca gtcggcattg  
 721 gtctgtgccc ttctgtgggc tctttcttgc ttggtgacca ccattggagta tgtcatgtgc  
 781 atcgacagag aagaagagag tcaactctcg aatgactgcc gagcagtcac catctttata  
 841 gccatcctga gcttcttgt cttcacgccc ctcatgctgg tgtccagcac catcttggtc  
 901 gtgaagatcc ggaagaacac gtgggcttcc cattcctcca agctttacat agtcatcatg  
 961 gtcaccatca ttatattcct catcttcgt atgcccata gactccttta cctgctgtac  
 1021 tatgagtatt ggtcgacctt tgggaacctc caccacattt cctgctctt tccacaatc  
 1081 aacagtagcg ccaacccttt catttacttc tttgtggaa gcagtaagaa gaagagattc  
 1141 aaggagtcct taaaagttgt tctgaccagg gctttcaaag atgaaatga acctcggcgc  
 1201 cagaaagaca attgtaatac ggtcacagtt gagactgtcg tctaagaact gtgagggag  
 1261 ttgtggataa aaatggtgga acacaggtca tttttagttt gtgcttgaa tatgacttaa  
 1321 gtatctccta aatgtgatac agaagaacat ctcatcccat atgcatgaga tactaattaa  
 1381 tgatgaaa

## (2) INFORMATION FOR SEQ ID NO:28:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 393 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

1 gagcagtgcc cagcttgctg cagatattga agccgtgtaa aataaatgcc tttgattgtt  
 61 cacactttaa gcaatattgg tacaatatta aaccattgt cccaggcact cctctcctt  
 121 actgcttatg gcacttcatg tattaataaa tgacagtggc agcattgccc agacatgcgt  
 181 tttgtcatca agtcttaatg cagtccacct ggtccctcag gcaaatgaat ggaggcacag  
 241 aagatgaaat gattttcaaa atgccattag gaaagctcag gccagaactg gaaatgggtc  
 301 ccgcacaggg cactcggcca ctcttgctg gccatctcct ttttggcact aagcacacaa  
 361 tgatatagaa tgaatgggta tcaactgggga tcc

## (2) INFORMATION FOR SEQ ID NO:29:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1388 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

1 ggatccagaa ggtcattca atcagttctc agtcttatca ggtctaagtt cctttcttat  
 61 caggtcctaa aggcctaatac ttatcattgt gacaaagata actgtagagt ctgttaaact  
 121 ttttttttaa taacatgaag attatgattt atagctgaat ttctcccttt tattccaatt  
 181 caacaatttt catggctttt tgtgtttgtt ttgttctgga catatttaca gaaaattacc  
 241 tgaagagttc caacctgagg cctcctcatg gatgggtcaa acgtgacatc atttgttgtt  
 301 gaggaaccca cgaacatctc aactggcagg aacgcctcag tcgggaatgc acatcggcaa

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361 atccccatcg tgcactgggt cattatgagc atctccccag tgggggttgt tgagaatggg  
421 attctcctct ggttcctgtg cttccggatg agaagaaatc ccttcactgt ctacatcacc  
481 cacctgtcta tcgcagacat ctactgtctc ttctgtattt tcatcttgtc tatcgactat  
541 gcttttagatt atgagcttct ttctggccat tactacacaa ttgtcacatt atcagtgaact  
601 tttctgtttg gctacaacac gggcctctat ctgctgacgg ccattagtgt ggagaggtgc  
661 ctgtcagtc tttaccccat ctggtaccga tgccatcgcc ccaagtacca gtcggcattg  
721 gtctgtgccc ttctgtgggc tctttcttgc ttggtgacca ccattggagta tgtcatgtgc  
781 atcgacagag aagaagagag tcaactctcg aatgactgcc gagcagtcac catctttata  
841 gccatcctga gcttcctggt cttcacgccc ctcatgctgg tgtccagcac catcttggtc  
901 gtgaagatcc ggaagaacac gtgggcttcc cattcctcca agctttacat agtcacatg  
961 gtcaccatca ttatattcct catcttcgct atgcccata gactccttta cctgctgtac  
1021 tatgagtatt ggtcgacctt tgggaacctt caccacattt cctgctctt ctccacaatc  
1081 aacagtagcg ccaacccttt catttacttc tttgtgggaa gcagtaagaa gaagagattc  
1141 aaggagtcct taaaagtgtg tctgaccagg gctttcaaag atgaaatgca acctcggcgc  
1201 cagaaagaca attgtaatac ggtcacagtt gagactgtcg tctaagaact gtgaggggag  
1261 ttgtggataa aaatggtgga acacaggtca tttttagttt gtgcttgga tatgacttaa  
1321 gtatctccta aatgtgatac agaagaacat ctcatcccat atgcatgaga tactaattaa  
1381 tgatgaaa

## (2) INFORMATION FOR SEQ ID NO:30:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3169 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

1 ggatccagaa ggtcattca atcagttctc agtcttatca ggtctaagtt cttttcttat  
61 caggctcctaa aggcctaate ttatcattgt gacaaagata actgtagagt ctgttaaact  
121 ttttttttaa taacatgaag attatgattt atagctgaat ttctcccttt tattccaatt  
181 caacaatttt catggctttt tgtgtttgtt ttgttctgga catatttaca gaaaattacc  
241 tgaagagttc caacctgagg cctcctcatg gatgggtcaa acgtgacatc atttgttgtt  
301 gaggaaccca cgaacatctc aactggcagg aacgcctcag tcgggaatgc acatcggcaa  
361 atccccatcg tgcactgggt cattatgagc atctccccag tgggggttgt tgagaatggg  
421 attctcctct ggttcctgtg cttccggatg agaagaaatc ccttcactgt ctacatcacc  
481 cacctgtcta tcgcagacat ctactgtctc ttctgtattt tcatcttgtc tatcgactat  
541 gcttttagatt atgagcttct ttctggccat tactacacaa ttgtcacatt atcagtgaact  
601 tttctgtttg gctacaacac gggcctctat ctgctgacgg ccattagtgt ggagaggtgc  
661 ctgtcagtc tttaccccat ctggtaccga tgccatcgcc ccaagtacca gtcggcattg  
721 gtctgtgccc ttctgtgggc tctttcttgc ttggtgacca ccattggagta tgtcatgtgc  
781 atcgacagag aagaagagag tcaactctcg aatgactgcc gagcagtcac catctttata  
841 gccatcctga gcttcctggt cttcacgccc ctcatgctgg tgtccagcac catcttggtc  
901 gtgaagatcc ggaagaacac gtgggcttcc cattcctcca agctttacat agtcacatg  
961 gtcaccatca ttatattcct catcttcgct atgcccata gactccttta cctgctgtac  
1021 tatgagtatt ggtcgacctt tgggaacctt caccacattt cctgctctt ctccacaatc  
1081 aacagtagcg ccaacccttt catttacttc tttgtgggaa gcagtaagaa gaagagattc  
1141 aaggagtcct taaaagtgtg tctgaccagg gctttcaaag atgaaatgca acctcggcgc  
1201 cagaaagaca attgtaatac ggtcacagtt gagactgtcg tctaagaact gtgaggggag  
1261 ttgtggataa aaatggtgga acacaggtca tttttagttt gtgcttgga tatgacttaa  
1321 gtatctccta aatgtgatac agaagaacat ctcatcccat atgcatgaga tactaattaa  
1381 tgatgaaa  
1 gagcagtgcc cagcttgtcg cagatattga agccgtgtaa aataaatgcc tttgattgtt  
61 cacactttaa gcaatattgg tacaatatta aaccattgt cccaggcact cctctcctt  
121 actgcttatg gcaattcatg tattaaaaaa tgacagtggc agcattgccc agacatgcgt  
181 tttgtcatca agtcttaatg cagtccacct ggtccctcag gcaaatgaat ggaggcacag  
241 aagatgaaat gattttcaaa atgccattag gaaagctcag gccagaactg gaaatgggtc  
301 ccgcacaggg cactcggcca ctcttgctg gccatctcct ttttggcact aagcacacaa  
361 tgatatagaa tgaatgggta tcaactgggga tcc  
1 ggatccagaa ggtcattca atcagttctc agtcttatca ggtctaagtt cttttcttat  
61 caggctcctaa aggcctaate ttatcattgt gacaaagata actgtagagt ctgttaaact  
121 ttttttttaa taacatgaag attatgattt atagctgaat ttctcccttt tattccaatt  
181 caacaatttt catggctttt tgtgtttgtt ttgttctgga catatttaca gaaaattacc  
241 tgaagagttc caacctgagg cctcctcatg gatgggtcaa acgtgacatc atttgttgtt  
301 gaggaaccca cgaacatctc aactggcagg aacgcctcag tcgggaatgc acatcggcaa  
361 atccccatcg tgcactgggt cattatgagc atctccccag tgggggttgt tgagaatggg  
421 attctcctct ggttcctgtg cttccggatg agaagaaatc ccttcactgt ctacatcacc  
481 cacctgtcta tcgcagacat ctactgtctc ttctgtattt tcatcttgtc tatcgactat  
541 gcttttagatt atgagcttct ttctggccat tactacacaa ttgtcacatt atcagtgaact  
601 tttctgtttg gctacaacac gggcctctat ctgctgacgg ccattagtgt ggagaggtgc  
661 ctgtcagtc tttaccccat ctggtaccga tgccatcgcc ccaagtacca gtcggcattg

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721 gtctgtgccc ttctgtgggc tctttcttgc ttggtagacca ccatggagta tgtcatgtgc  
781 atcgacagag aagaagagag tcaactctcg aatgactgcc gagcagtcac catctttata  
841 gccatcctga gcttctctgg cttcacgccc ctcagtgctgg tgcacagcac catcttggtc  
901 gtgaagatcc ggaagaacac gtgggcttcc cattcctcca agctttacat agtcatcatg  
961 gtcacatca ttatattcct catcttcgct atgcccata gactccttta cctgctgtac  
1021 tatgagtatt ggtcgacctt tgggaacctt caccacattt cctgctctt ctccacaatc  
1081 aacagtagcg ccaacccttt catctacttc tttgtgggaa gcagtaagaa gaagagattc  
1141 aaggagtcct taaaagttgt tctgaccagg gctttcaaag atgaaatgca acctcggcgc  
1201 cagaagaca attgtaatac ggtcacagtt gagactgtcg tctaagaact gtgagggag  
1261 ttgtggataa aaatggtgga acacaggtca ttttagttt gtgcttgaa tatgacttaa  
1321 gtatctccta aatgtgatac agaagaacat ctcacccat atgcatgaga tactaattaa  
1381 tgatgaaa

## (2) INFORMATION FOR SEQ ID NO:31:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3585 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

1 gggccagag aaagagctgt cccggggcc ttggggacag ggtgacagcc acccagagat  
61 catggagaag gggacgtaag gaagacctca cagaggagtc atcctgcgac tgtgttggtt  
121 gggctcttca ggaagcagag tcccaggagt tggaagcata agaggaatac tgcgggcaat  
181 gcctgagaaa gataacaggg accgggagca ggagttagtt gggcagggga aggatcaggc  
241 ccacaatgcc aggtcacac ctgcagagga ggaagaaga agaagggcct cacatcagcc  
301 cagcggggga tgttacgccc acagacgccc cggggctcag ttactgtcta agtgttagaa  
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## (2) INFORMATION FOR SEQ ID NO:32:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23142 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

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## (2) INFORMATION FOR SEQ ID NO:33:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3690 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

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(2) INFORMATION FOR SEQ ID NO:34:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30417 base pairs



(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

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1741 ttgggaatgg ggatcccccg gagaatggag agagcttttc agctgccctg atggagatgt
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1861 acagcatctc ctgtctagac ccactggtgt cctcttggcg gcggaagagg aaggagtcca
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## (2) INFORMATION FOR SEQ ID NO:35:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1872 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

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1561 agaagaacta ttcactgtat ttcattttct ttatattgga ccgaagtcac taaaacaaaa  
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## (2) INFORMATION FOR SEQ ID NO:36:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4286 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

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121 aggatcaaca cagtggctga acactgggaa ggaactggta cttggagctt ggacatctga  
181 aacttggtct tgaactgctg cagcggccac cggacgcctt ctggagcagg tagcagcatg  
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3301 gaaagaaaga gcaataataa ttaattcaca caccatatgg attctattta taaatcaccc  
3361 acaaacttgt tctttaattt catcccaatc accttttcag aggcctgtta tcatagaagt  
3421 catttttagac tctcaatttt aaattaattt tgaatcacta atattttcac agtttattaa  
3481 tatatttaaa tttctattta atttttagatt atttttatta ccatgtactg aatttttaca  
3541 tcttgatacc ctttccttct ccatgtcagt atcatgttct ctaattatct tgccaaattt  
3601 tgaaactaca cacaaaaagc atacttgcac tatttataat aaaattgcat tcagtggctt  
3661 tttaaaaaaa atgtttgatt caaaacttta acatactgat aagtaagaaa caattataat  
3721 ttctttacat actcaaaacc aagatagaaa aagggtgctat cgttcaactt caaaacatgt  
3781 ttcctagtat taaggacttt aatatagcaa cagacaaaaat tattgttaac atggatgtta  
3841 cagctcaaaa gatttataaa agattttaac ctattttctc ccttattatc cactgctaata  
3901 gtggatgtat gttcaaacac ctttttagtat tgatagctta catatggcca aaggaataca  
3961 gtttatagca aaacatgggt atgctgtagc taactttata aaagtgtaat ataacaatgt  
4021 aaaaaattat atatctggga ggattttttg gttgcctaaa gtggctatag ttactgattt  
4081 tttattatgt aagcaaaacc aataaaaaatt taagtttttt taacaactac cttatttttc  
4141 actgtacaga cactaattca ttaaatacta attgattgtt taaaagaaat ataaatgtga  
4201 caagtggaca ttatttatgt taaatataca attatcaagc aagtatgaag ttattcaatt  
4261 aaaatgccac atttctggtc tctggg

## (2) INFORMATION FOR SEQ ID NO:37:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1719 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

1 gggctgcagg tttcgaccg cgctggcgag tcatgagcgc caagtttccc actggcgccg  
61 aaacttgagt tacttttgag cgtggatact ggcgaagagg ctgcccggcg tattagcggt  
121 tgcagcgact tggctcgggc agctgacccc aaagtgtctg tcttcttcc tctgcttgtc  
181 tctaggctct gaaactgcgg cggccaccgg acgcttctgg agcaggtagc agcatgcagc  
241 cgctccaag tctgtgcgga cgcgcctgg ttgcgctgg tcttgctgc ggcctgtcgc  
301 ggatctgggg agaggagaga ggcttcccgc ccgacagggc cactccgctt ttgcaaacgg  
361 cagagataat gacgccaccc actaagacct tatggcccaa gggttccaac gccagtctgg  
421 cgcggtcggt ggcaactgcg gaggtgccta aaggagacag gacggcagga tctccgccac  
481 gcacatctc ccctcccccg tgccaaggac ccacgagat caaggagat tccaataca  
541 tcaacacggt tgtgtcctgc cttgtgttcg tgcgtgggat catcggaac tccacacttc  
601 tgagaattat ctacaagaac aagtgcagtc gaaacgggtc caatatcttg atcgccagct  
661 tggctctggg agacctgctg cacatcgta ttgacatccc tatcaatgtc tacaaagctgc  
721 tggcagagga ctggccattt ggagctgaga tgtgtaagct ggtgcctttc atacagaaag  
781 cctccgtggg aatcactgtg ctgagcttat gtgctctgag tattgacaga tatcgagctg  
841 ttgcttcttg gtagaatt aaaggaattg gggttccaaa atggacagca gtagaattg  
901 ttttgatttg ggtggtctct gtggttctgg ctgtccctga agccataggt tttgatataa  
961 ttacgatgga ctacaaagga agttatctgc gaatctgctt gcttcatccc gttcagaaga  
1021 cagctttcat gcagttttac aagacagcaa aagattgggt gctgttcagt ttctatttct  
1081 gcttgccatt ggccatcact gcattttttt atacactaat gacctgtgaa atgttgagaa  
1141 agaaaagtgg catgcagatt gctttaaatg atcacctaaa gcagagacgg gaagtggcca  
1201 aaaccgtctt ttgcctggtc cttgtctttg ccctctgctg gcttccccct cacctcagca  
1261 ggattctgaa gctcactctt tataatcaga atgatccaa tagatgtgaa cttttgagct  
1321 ttctgttggt attggactat attggtatca acatggcttc actgaattcc tgcatttaacc  
1381 caattgctct gtatttggtg agcaaaagat tcaaaaactg ctttaagtca tgcttatgct  
1441 gctggtgcca gtcatttgaa gaaaaacagt ccttgaggga aaagcagtcg tgcttaaggt  
1501 tcaaagctaa tgatcacgga tatgacaact tccgttccag taataaatac agctcatctt  
1561 gaaagaagaa ctattcactg tatttcattt tctttatatt ggaccgaagt cattaaaaa  
1621 aatgaaaca tttgcaaaa caaaaacaaa aactatgtat ttgcacagca cactattaaa  
1681 atattaagtg taattatttt aaaaaaaaaa aaaaaaaaaa

## (2) INFORMATION FOR SEQ ID NO:38:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4156 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

1 cccactatgt tggccaggat ggtcttgatt tcttgacctc gtgttctgcc cgcctctacc  
61 tcccaaagtg ccgggattac aggcgtgact gctgtgccc gcccagcat cacttttata  
121 gctttctgtg cctcttctc tgggcttgg tgtatgaagc cacttgctt tctctgttgg  
181 gaagcgagca gaatcagatt gctactcatg atgcagtcg ggcagggcat actgtcacct  
241 ttggctgtgg acacagttgt caggataggg gagaagccct ttaggtccgt cttcttgaca  
301 cagccctctt acctggttac gctggtgctt tcgcttgggt tagacaacca agacacttga  
361 gaattatgct gtcctcagaa tgtctgatga aaagaacaga ttcacttttt ggacacaatg

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421 cccattagcc atcttttgga gtgtttctga tcaaagggtc cccatgcctg ctctaggaaa  
481 gtaaaccttt ttcagaataa atcctcaaat ggattactga gtagtctttg caccattccc  
541 atcagcctaa tcagactgaa tggtcacgct cagtgcacaa agctgttttg ctgttaggat  
601 gtttcagtggt ttcttgtctt tcctggaaca gttcagttgt ttaaatttag taattcaatc  
661 ctgaccagtg taaacccact taattattgc agcctaaga attcagctac ttctactctt  
721 cataaatgtg cccaagtaaa tatgtgtttt taatattcaa ccttggaaaa ttagtaattc  
781 agatgataaa agctcatgtt ttggtgtctt tgtactcaga ttgtgaacag gcatatttca  
841 ctgatttaga cttagtatac ttgatgagaa tgctcagggt gaagagatag ttctgtcagc  
901 aatccaacat ctatagcaat gtggaaaaag taatcaactc atatttcacg aatttgatgt  
961 atgttgatgt ttagagggca tgagataaag tttatatttg aactgtgtgg ggtaggggga  
1021 agaagaggtt gcttaagcaa atgggggggt gattgaggaa caagatgtct ctaagatgag  
1081 aggttatttt cttgcatcat agaagcactc tythyaccog ngagtgttg ttgtaactat  
1141 aaatcattta tatctgtaca ttaaagcaga ttccctcaat taggcaaatt tggtagcca  
1201 agcccaagtt attgtttgta ctgaaagta ataaagctgc atttccctaa aaatatattc  
1261 tgtagttaag actttgtctt gctttccgga attcctgttt ttcttttctt ctagagacct  
1321 cggcttgcaa ctggatcaaa cgctgtcgaaggatgtaaa taggcagagc aactgttacc  
1381 aagaaggcca ccacccccac ccaaaggcag tgaggagtgt ggggcttcgt ctgggctccc  
1441 ccgagtcctca acagtaatac acagtcaggt gttgattgca acttttcaag gtcagccacc  
1501 gggagtagcc tattccctct aggaaccttg gagggcatac cttgtctggga ctcaacttgg  
1561 ctgagaaatg cacaagatgc caaaggagga aggtattatg ggggctgtgt tgtgaccccc  
1621 aagaccgatc ttccgctatc accctaactc ccggttcccc gctaccgggg cgggggtgag  
1681 tatgtgacat gtgcctaact ctcagcagca acttcggcag caggtgtcga tcctaactaa  
1741 gcaggagctg cggtctccgg gtgtgcccct accaagccat gcgagccccg ggcgcgtctc  
1801 tcgcccgcgt gtcgcggtca ctgcttctgc tactgtctaa ggtgtctgct tcttctgcc  
1861 tcgggggtgc ccctgcgtcc agaaacgaaa cttgtctggg ggagagctgt gcacctacag  
1921 tgatccagcg ccgcggcagg gacgcctggg gaccgggaaa ttctgcaaga gacgttctgc  
1981 gagcccgagc acccaggag gagcaggggg cagcgtttct tgcgggaccc tcttgggacc  
2041 tgccggcggc cccggaccgt gaccgcgtg caggcagagg ggcggaggcg tcgacagccg  
2101 gacccccggg acctccaacc aggccacctg tccccggag gtggaaaagg gctcggggtc  
2161 aggagccttc tgaaactttg gggagagggg accccacggc cctccagctc ttcttccaga  
2221 tctcagagga ggaagagaa ggtcccagag gcgctgtcat ttccggcgct agccaggagc  
2281 agagtgtgaa gacagtcccc ggagccagcg atctttttta ctgtccaagg agagccggga  
2341 aactccaggg ttcccaccac aagccctgt ccaagacggc caatggactg gcggggcacg  
2401 aagggtggac aattgcactc ccgggcccgg cgctggccca gaatggatcc ttgggtgaa  
2461 gaatccatga tcttgggggt cccgcggcg gaaacagcac gaaccggcgt gtgagactga  
2521 agaaccctt ctaccgcgtg acccaggagt cctatggagc ctacggggtc atgtgtctgt  
2581 ccgtggtgat cttcgggacc ggcattctg gcaacctggc ggtgatgtgc atcgtgtgct  
2641 acaactacta catgcggagc atctccaact ccctcttggc caacctgtgc ttctgggact  
2701 ttctcatcat cttcttctgc cttccgctgg tcatcttcca cgagctgacc aagaagtggc  
2761 tgggtgagga cttctctctg aagatcgtgc cctatataga ggtcgcttct ctgggagtca  
2821 ccactttcac cttatgtgct ctgtgcatag accgcttccg tgctgccacc aacgtacaga  
2881 tgtactacga aatgatcgaa aactgttctt caacaactgc caaacttgct gttatatggg  
2941 tgggagctct attgttagca cttccagaag ttgttctccg ccagctgagc aaggaggatt  
3001 tgggggttag tggccgagct ccggcagaaa ggtgcattat taagatctct cctgatttac  
3061 cagacacat ctatgttcta gccctcacct acgacagtc gagactgtgg tgggtatttg  
3121 gctgttactt ttgtttgccc acgtttttca ccatcacctg ctctctagtg actgagagga  
3181 aaatccgcaa agcagagaaa gcctgtacct gagggataaa acggcagatt caactagaga  
3241 gtcagatgaa ctgtacagta gtggcactga ccattttata tggattgggc attattcctg  
3301 aaaatatctg caacattgtt actgcctaca tggctacagg ggtttcacag cagacaatgg  
3361 acctccttaa tatcatcagc cagttccttt tgttctttaa gtccgtgtgc accccagctc  
3421 tccttttctg tctctgcaaa cccttcagtc gggccttcat ggagtgtctg tctgtttgct  
3481 gtgaggaatg cattcagaag tcttcaacgg tgaccagtga tgacaatgac aacgagtaca  
3541 ccacgggaact cgaactctcg cctttcagtg ccatacgccg tgaaatgtcc acttttgctt  
3601 ctgtcggaac tcattgtctg aggcagctac ttggttgggt cagattttatt tgtttgattt  
3661 tcatatcccg tgaaagtgtt taattcatat ttttcttat agggaaaaat gcaaaaaaga  
3721 aacaataaag aaagaaatat taactactgt agaactgatt ttacaaatta atatttgtgc  
3781 tttgaaaaaa agtttctatt tagttattta agaagaatga gaaggccaat agtttttagat  
3841 tttttatct ggtatggtgc taatttttta tttgaaaaaa gttactgcaa cttaacttaa  
3901 aattgtctaac gtttttctt cttttaaaaa tacaattatt gtatattaat tatagcaatg  
3961 tgattttgta ggtattttta ttttgagtt gtgattgaaa gtatgttgta tatggtattg  
4021 tgagatgatt tgtacttggg agcattcaca aagtagcacc aaataaatta cactttattc  
4081 tttaatgtca ttgtcaatct acttttaacc aatattcaat aaatcttcta attgccttaa  
4141 aaaaaaaaa aaaaaa

## (2) INFORMATION FOR SEQ ID NO:39:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1578 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

```
1 gggctgcagg ttctgaccgc cgtggcgag tcatgagcgc caagtttccc actggcgcg
61 aaacttgagt tacttttgag cgtggatact ggcgaagagg ctgaggggcg tattagcggt
121 tgcagcgact tggctcgggc agctgacccc aaagtgtctg tcttcccttc tctgcttgtc
181 tctaggctctt gaaactgcgg cggccaccgg acgcttcttg agcaggtagc agcatgcagc
241 cgctccaag tctgtgcgga cgcgccctgg ttgcgctggt tcttgctgc ggctgtgcg
301 ggatctgggg agaggagaga ggcttccgc cgcacagggc cactccgctt ttgcaaaccg
361 cagagataat gacgccaccc actaagacct tatggcccaa gggttccaac gccagtcgtg
421 cgcggtcggt ggcacctgcg gaggtgccta aaggagacag gacggcagga tctccgccac
481 gcacatctc ccttcccccg tgccaaggac ccatcgagat caaggagact ttcaaatata
541 tcaacacggt tgtgtcctgc cttgtgttcg tctggggat catcgggaac tccacacttc
601 tgagaattat ctacaagaac aagtgcctgc gaaacggtcc caatatcttg atcgccagct
661 tggctctggg agacctgctg cacatcgtca ttgacatccc tatcaatgct tacaagctgc
721 tggcagagga ctggccattt ggagctgaga tgtgtaagct ggtgcctttc atacagaaag
781 cctccgtggg aatcactgtg ctgagcttat gtgctctgag tattgacaga tatcgagctg
841 ttgcttcttg gagtagaatt aaaggaattg gggttccaaa atggacagca gtagaaattg
901 ttttgatttg ggtggtctct gtggttctg cgtgccctga agccataggt tttgatataa
961 ttacgatgga ctacaaagga agttatctgc gaatctgctt gcttcatccc gttcagaaga
1021 cagctttcat gcagttttac aagacagcaa aagattggtg gctggtcagt ttctatttct
1081 gcttgccatt ggccatcact gcattttttt atacactaat gacctgtgaa atgttgagaa
1141 agaaaagtgg catgcagatt gctttaaatg atcacctaaa gcagagacgg gaagtggcca
1201 aaaccgtctt ttgcctggtc cttgtctttg cctctgctg gcttccccct caccctagca
1261 ggattctgaa gctcactctt tataatcaga atgatcccaa tagatgtgaa cttttgagct
1321 tttgtttggt attggactat attggtatca acatggcttc actgaattcc tgcatttaac
1381 caattgctct gtatttggtg agcaaaagat tcaaaaactg ctttaaggct gggccacatg
1441 ttggaaataa gctagtaatg ttgtttctg tcaatattga atgtgatggt acagtaaacc
1501 aaaacccaac aatgtggcca gaaagaaaga gcaataataa ttaattcaca caccataggt
1561 attctattta taaatcac
```

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13611 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

```
1 aggagtttgc accgcgctg gcgagtcag agcgccaagt ttcccactgg cgcgcaaact
61 tgagttactt ttgagcgtgg atactggcga agaggctgcg ggcggtatta gcgtttgcag
121 cgacttggct cgggcagctg acccaagtgt cctgtcttcc ttcctctgct tgtctctagg
181 ctctgaaact gcggagcggc caccggacgc cttctggagc aggtagcagc atgcagccgc
241 ctccaagtct gtgcggaccg gccctgggtg cgtctggtct tgccctgcggc ctgtcgcgga
301 tctggggaga ggagagaggc ttccgcctg acagggccac tccgcttttg caaaccgcag
361 agataatgac gccaccact aagaccttat ggcccaaggg ttccaacgcc agtctggcgc
421 ggtcgttggc acctgcggag gtgcctaaag gagacaggac ggcaggatct ccgccacgca
481 ccatctcccc tccccgtgc caaggaccca tcgagatcaa ggagactttc aaatacatca
541 acacggttgt gtcctgcctt gtgttcgtgc tggggatcat cgggaactcc acacttctga
601 gaattatcta caagaacaag tgcattgcga acggtcccaa tatcttgatc gccagcttgg
661 ctctgggaga cctgtgcac atcgtcattg acatccctat caatgtctac aagctgctgg
721 cagaggactg gccatttga gctgagatgt gtaagctggt gcctttcata cagaaagcct
781 ccgtgggaat cactgtgctg agtctatgtg ctctgagtat tgacagatat cgagctgttg
841 cttcttggag tagaattaaa ggaattgggg ttccaaaatg gacagcagta gaaattgttt
901 tgatttgggt ggtctctgtg gttctggtg tccctgaagc cataggtttt gatataatta
961 cgatggacta caaaggaggt tatctgcgaa tctgcttgc tcatccggtt cagaagacag
1021 ctttcatgca gttttacaag acagcaaaaag attggtggct attcagtttc tatttctgct
1081 tgccattggc catcactgca tttttttata cactaatgac ctgtgaaatg ttgagaaaga
1141 aaagtggcat gcagattgct ttaaatgac acctaaagca gagacgggaa gtggccaaaa
1201 ccgtcttttg cctggtcctt gtctttgccc tctgctggct tccccctcac ctcagcagga
1261 ttctgaagct cactctttat aatcagaatg atcccaatag atgtgaactt ttgagctttc
1321 tgttggattt ggactatatt ggtatcaaca tggcttccat gaattcctgc attaacccaa
1381 ttgctctgta tttggtgagc aaaagattca aaaactgctt taagtctgct ttatgctgct
1441 ggtgccagtc atttgaagaa aaacagtcct tggaggaaaa gcagtcgtgc ttaaaagttca
1501 aagctaataa tcacggatat gacaacttcc gttccagtaa taaatacagc tcatcttgaa
1561 agaagaacta ttcactgtat ttcattttct ttatattgga ccgaagtcac taaaacaaaa
1621 tgaaacattt gccaaaacaa aacaaaaaac tatgtatttg cacagcacac tattaataa
1681 ttaagtgtaa ttattttaac actcacagct acatatgaca ttttatgagc tgtttacggc
1741 atggaaagaa aatcagtggt aattaagaaa gcctcgtcgt gaaagcactt aattttttac
1801 agttagcact tcaacatagc tcttaacaac ttccaggata ttcacacaac acttaggctt
1861 aaaaatgagc tc
```

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1 gagacattcc ggtgggggac tctggccagc ccgagcaacg tggatcctga gagcactccc  
61 aggtaggcat ttgccccggt gggacgcctt gccagagcag tgtgtggcag gccccgtgg  
121 aggatcaaca cagtggctga acactgggaa ggaactggta cttggagtct ggacatctga  
181 aacttggctc tgaactgctg cagcggccac cggacgcctt ctggagcagg tagcagcatg  
241 cagccgcctc caagtctgtg cggacgcgcc ctggttgccg tggttcttgc ctgcccctg  
301 tcgcgatctt ggggagagga gagaggcttc ccgcctgaca gggccactcc gcttttgcaa  
361 accgcagaga taatgacgcc acccataag accttatggc ccaagggttc caacgccagt  
421 ctggcgcggt cgttggcacc tgcggagggt cctaaaggag acaggacggc aggatctccg  
481 ccacgcacca tctcccctcc cccgtgccaa ggacccatcg agatcaagga gactttcaaa  
541 tacatcaaca cggttgtgtc ctgccttgtg ttcgtgctgg ggatcatcgg gaactccaca  
601 cttctgagaa ttatctacaa gaacaagtgc atgcgaaacg gtcccaatat cttgatcgcc  
661 agcttggctc tgggagacct gctgcacatc gtcatcgaca tccctatcaa tgtctacaag  
721 ctgctggcag aggactggcc atttggagct gagatgtgta agctggtgcc tttcatacag  
781 aaagcctccg tgggaatcac tgtgtgagt ctatgtgctc tgagtattga cagatatcga  
841 gctgttgctt cttggagtga aattaaagga attggggttc caaatggag agcagtagaa  
901 attgttttga tttgggtggt ctctgtggtt ctggctgtcc ctgaagccat aggttttgat  
961 ataattacga tggactacaa aggaagttat ctgcgaatct gcttgcttca tcccgttcag  
1021 aagacagctt tcatgcagtt ttacaagaca gcaaaagatt ggtggctggt cagtttctat  
1081 ttctgcttgc cattggccat cactgcattt ttttatacac taatgacctg tgaatggtg  
1141 agaaagaaaa gtggcatgca gattgcttta aatgatcacc taaagcagag acgggaagtg  
1201 gccaaaaccg tcttttgctt ggtccttgct tttgcccctc gctggcttcc ccttcacctc  
1261 agcaggattc tgaagctcac tctttataat cagaatgatc ccaatagatg tgaacttttg  
1321 agctttctgt tggatttggga ctatattggt atcaacatgg cttcactgaa ttcctgcatt  
1381 aaccaatttg ctctgtattt ggtgagcaaa agattcaaaa actgctttaa gtcattgcta  
1441 tgctgctggt gccagtcatt tgaagaaaaa cagtccttgg aggaaaagca gtcgtgctta  
1501 aagttaaaag ctaatgatca cggatatgac aacttccgtt ccagtaataa atacagctca  
1561 tcttgaagaa agaactatct actgtatttc attttcttta tattggaccg aagtcattaa  
1621 aacaaaatga aacatttgcg aaaaacaaac aaaaaactat gtatttgcac agcacactat  
1681 taaaatatta agtgtaatta ttttaacact cacagctaca tatgacattt tatgagctgt  
1741 ttacggcatg gaaagaaaaa cagtgggaat taagaaagcc tcgtcgtgaa agcacttaat  
1801 tttttacagt tagcacttca acatagctct taacaacttc caggatattc acacaacact  
1861 taggcttaaa aatgagctca ctcagaattt ctattctttc taaaaagaga tttattttta  
1921 aatcaatggg actctgatat aaaggaagaa taagtcactg taaaacagaa cttttaaatg  
1981 aagcttaaat tactcaattt aaaattttaa aatcctttta aacaactttt caataaatat  
2041 tatcacacta ttatcagatt gtaattagat gcaaatgaga gagcagttta gttgttgcag  
2101 ttttcggaca ctggaaacat ttaaatgatc agggaggagt aacagaaaga gcaaggctgt  
2161 ttttgaaaat cattacactt tctactagaag cccaaacctc agcattctgc aatatgtaac  
2221 caacatgtca caaacaagca gcatgtaaca gactggcaca tgtgccagct gaatttaaaa  
2281 tataatactt ttaaaaaaga aattattaca tcttttacat tcagttaaga tcaaacctca  
2341 caaagagaaa tagaatgtt gaaaggctat cccaaaagac ttttttgaat ctgtcattca  
2401 cataccctgt gaagacaata ctatctacaa ttttttcagg attattaaaa tcttcttttt  
2461 tctactatct agcttaaaact ctgtttggtt ttgtcatctg taaatactta cctacataca  
2521 ctgcatgtag atgattaaat gagggcaggc cctgtgctca tagctttacg atggagagat  
2581 gccagtgacc tcataataaa gactgtgaac tgcctgggtg agtgtccaca tgacaaaggg  
2641 gcaggtagca ccctctctca cccatgctgt ggttaaaatg gtttctagca tatgtataat  
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 4141 aaaaaaaaaa aaaaaa

1 gggctgcagg ttctgaccg cgctggcgag tcattgagcgc caagtttccc actggcgccg  
 61 aaacttgagt tacttttgag cgtggatact ggcgaagagg ctgcgggcgg tattagcgtt  
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 1501 aaaacccaac aatgtggcca gaaagaaaga gcaataataa ttaattcaca caccatattg  
 1561 attctattta taaatcac

## (2) INFORMATION FOR SEQ ID NO:41:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12461 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

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## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

1 gatatcctat taatacagag atacagaaaag aaatacataa aaaatagttt tatcaaatatc  
61 tttccagcat tcaagtgtag cctcaaaaagc aagaataggc caggagtggg ggctcacgct  
121 gtaatccaca gcaactgtggg aggccaaggt aagaggattg cttgaggcca ggatttcaag  
181 accagcctag gcaacatagt gagatcccta tctctacgaa aaaattttaa aacttagctg  
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4021 tttttccccc ttttttttat gactgcagct tagagagcaa gtgtctgaga attattgctg  
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4141 gcaattgact ataacatgac attaaaaataa cttatcgrrt tattattatt attccattat  
4201 gtgtttccctt ggctttttaa aaatgagaag agtatggaca tatacaattt agtcaaatgt  
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4321 taaacactat ttttaatagt tggttaacgtg taaaatattt aagcattcca gcttgaagcc  
4381 aaggaattgt atccagtcgt tcaagcaatg tatgttcagt aaaatcacct gcagagcaaa  
4441 agtctgttga ctaactaccg cctccccgcg cccccacca cccccgcag gcggtttctg  
4501 ggtgaagcag atgttttctt taaaatttgt catcattgac ttttaggtttc ttttggcagg  
4561 tttttggcac ccaaaacagt gtgagctctc ttttcagctt tattcacctg tgctgggagg  
4621 ggagctagga taattcttgg ctgccgaagg atttaggcag tgctgtgca tctgccggg  
4681 tccccccgt ttttagggtc agtgcaactt ttttgtctt tcgtgaccct gactaaagag  
4741 aaaggatgtc aagggatga aaatcctgga atgtgtctga tcatttgaa tgtacaaaat  
4801 tgggcagata agctgcatgg ctaaatgtt aggaggaaga ggcaaggcag tagtggagaa  
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5041 cacctaattt tgaagatat acatcatctg gggtaccctg tgccctacac agcatgtgaa  
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5161 gaataactgt gatttcttgt ctttagtcat gtgccaatgt taagtaagct tcagtggata  
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5401 aaggtgaact catgttaagg agggaaaaaa ataaagagcc cttttttctg tgtttcttgc  
5461 tgatggcagg ctgtgtgctt catctgctt tatctgctt gctagctctg actctactgt  
5521 gatccagcat gtctctcggc gtttgaggag acatcccca ctgacctgt ctttctctcc  
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5641 cccagtcac cctggcggt cgcgcgtcc aagcgctgct cctgctcgtc cctgatggat  
5701 aaagagtgtg tctacttctg ccacctggac atcatttggg tcaacactcc cgagtaagtc  
5761 tctagagggc attgtaaccc tattcattca ttagcgctgg ctccactgga gccagtttt  
5821 agagtcttct ttctagggac tctgaaggta gtcttcttaa caccatccaa gtgcctcagt  
5881 ggggacagtt tccctctatt cctgaaaaata acgacagctt cgttcttagc aaccaagggg  
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6001 cactgttcaa atgaggaact ttcatgaga gggcctcagg ggacactct cacagtggca  
6061 tctgatggg tttcgggaat aattgccgag gtcagatgtg ggttagtgca acctgtgctt  
6121 ctcatgggag ggtggagact gagaggcaga agtgatgata tagagggtta gaatcactta  
6181 atttttagtta cagaaaaacc taggctcaa gtgttgaagc catttggtga ggagtgaatt  
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6301 tgccatttc agaactgaaa tagaaatact gtccataggc ttctctttca cctacagaga  
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6421 ataaacaagc acacatttat tatgcataca atgtaccgtt atgacaaagg aggacaaaa  
6481 tccaaacaat atcaaacacc accaaaaacc acaaggagcc taataattac taagggtgata  
6541 cttccaaagg gaggacttta tttcttagat gagaatgaaa atggacacat tggaaattat  
6601 tggagagccc tctggctatg agtccttcca caaccatag gtaccaccga ctggcaggag  
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6721 ctttttagcag tatectcctg ggttttaggt gaaaataagt tttaaaaatc ctgtgagtc  
6781 ttggttttga ttgaaacctc ttcccactgt gtaccacaaa atagttaact aaatagacca  
6841 ttagaaaaag aagaaaatat aaagcagatg ccaagcagag atgtcctaatt tttgacaaa  
6901 aaagcaatgt tgcttgtgtc aagaagaac tgaactttgt gaagagtga aatggaattc  
6961 cactgaatta gaaaaacttg ttttctcctg cctggataga tacagtcagg gccattgatg  
7021 cacaggtgtt cctggctgtt gttacacttt accctctgaa atgatgctcc caagtgtat  
7081 gtgatgagct ccttgtgtgc ccagtggaa aggtgtgtcc atgtgtcatt ttaaagacta  
7141 ttaattacac taatatagtt tctttctctc tttggataat aggcacgtt ttccgtatgg  
7201 acttgaagc cctaggtcca agagagcctt ggagaattta cttccacaaa aggcaacaga  
7261 ccgtgagaat agatgccaat gtgctagcca aaaagacaag aagtgtgga atttttgcca  
7321 agcaggaaaa gaactcaggt gagcagaaac acctttgctt ttcaatcagt ttaacagcct  
7381 cctgaactcc ttctatcat ggtactgcct tccgttttta gagagactaa cagagacatt  
7441 gaaagtcagg gtaaagctga atataacatt gctgaaatgt ttttcttgt gtattttaac  
7501 agggctgaag acattatgga gaaagactgg aataatcata agaaaggaaa agactgttcc  
7561 aagcttggga aaaagtgtat ttatcagcag ttagttagag gaagaaaaat cagaagaagt  
7621 tcagaggaac acctaagaca aaccaggtaa gagggaaagg agaaaaatta ggtaagagggt  
7681 tcacaagaac aactagcccc agtcagtgtat gccagcagcc tgttcttcca gcccttctta  
7741 cccgggcagg tgaaagactt agaaaacagt agcagaggag atctatgcat cctatagatt  
7801 aaaaggagca aaagaatccc tcttaaataat ttccatgaag ctctggaatg caaacccatg  
7861 tctctgttac ctttagcaca taccatttca tctacaggta gatttcccaa ccaaaatata  
7921 tccagagatg ctttgtcat tgggttatat acagcctttg cctctctgag tcaatgtatt  
7981 taccactttc cctgagaaat cgaaaatcat tttggggagc ggacatttag aaaaagaatc  
8041 aaagtgtcat ggataatcaa attcttcaat aagttgcagt tattcagatg gccaaaggaa

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8101 aaataaagtc attagatagg gttggttagaa tttagaacat gctgtttttc aggtttatgg  
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8221 tcattccaaa aagctctctc ttttcctggt cagtcattgt ctgggacaga gaaggatct  
8281 ggattaggca acatcataga gttgctctga gctgctctt ggtgataacc cttccaaatc  
8341 ctaaaccttt tggaattcac aagctcaaa gaggaaacct actctctgat ctaccacatg  
8401 ttctgcattt ttctatcatg gtctatggaa acttctctta gaaatccagt ggcaagaagt  
8461 tctatgatta aagtgttctg agctcaggcc aggcagtcac gaactacttc tgagtgttt  
8521 actactgatt tgtggggcag cctcagctat cggtttcttc acacctgctt atgagagtat  
8581 ccatatttat ggtcgcaggc agtaatgctc cccacgagat cagtttctga actaacctgg  
8641 aattttttat ggttttttat tatgccaaact attaaatcaa cattacagtt cttccctctg  
8701 tatttctcct gtaaaacatt aggcctgcaa aaaaaaaaaa tcttttttaa aataattgcc  
8761 ataaagtatt tgctctgggc ctactgtatg cttcttttyt tttctctctt tttaactaa  
8821 gtcaccgtca atttattaag atggccataa ctattcaaaa cctatgtctga gttcctcaag  
8881 gcagggtcgc atagtgtatg aggttgggat ggggctacgg aagaaaccag aacaactcta  
8941 gtttatttaa aacctgtatt tactgcccac ttccccttag acttgaccat atgaccctt  
9001 gctccccatt ctaagcatag gggcaggctt tatttttaca atggtaatag atgatcac  
9061 ttgaggtttt atcaaagagt tgccggcggg ggtgaaagt cacaaccaga ttcaggtttt  
9121 gtttgtgcca gattctaatt ttacatgttt ctttggcaa aggggtgatt ttttaaaata  
9181 acatttgttt tctcttatct tgctttatta ggtcggagac catgagaac agcgtcaaat  
9241 catcttttca tgatcccaag ctgaaaggca agccctccag agagcggtat gtgaccaca  
9301 accgagcaca ttggtgacag acctcgggg cctgtctgaa gccatagcct ccacggagag  
9361 ccctgtggcc gactctgcac tctccacct ggctgggatc agagcaggag catcctctgc  
9421 tggttcctga ctggcaagg accagcgctc tcgttcaaaa cattccaaga aaggttaagg  
9481 agttccccc accatcttca ctggcttcca tcagtggtaa ctgctttggt ctcttcttct  
9541 atctgggat gacaatggac ctctcagcag aaacacacag tcacattcga attcgggtg  
9601 catcctccgg agagagagag aggaaggaga ttccacacag ggtgagatt tctgacgaag  
9661 gtcctaagg agtgtttgtg tctgaactcag gcgcctggca catttcagg agaaactcca  
9721 aagtcacac aaagattttc taaggaaatgc acaaattgaa aacacactca aaagacaaac  
9781 atgcaagtaa agaaaaaaaa aagaaagact tttgtttaaa tttgtaaaat gcaaaactga  
9841 atgaaactgt tactaccata aatcaggata tgtttcatga atatgagtct acctcaccta  
9901 ttttgcactc tggcagaagt atttcccaca ttttaattatt gcctcccaa actcttccca  
9961 cccctgctgc ccttctctcc atccccata ctaaactcta gcctgtaga agtctggtct  
10021 aatgtgtcag cagtagatat aatattttca tggtaactca ctagtctga tccataagaa  
10081 aaaaaagatc attaaatcag gagattccct gtccttgatt tttggagaca caatggtata  
10141 ggggtgttta tgaatatat tgaaaagtaa gtgtttgtta cgctttaaag cagtaaaatt  
10201 attttcttt atataaccg ctaatgaaag aggttggatt gaattttgat gtacttattt  
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10321 ttgggcaggc catattgggtc tatgtatttt taaaatatgt atttctaatt gaaattgaga  
10381 acatgctttg ttttgcctgt caaggtaatg actttagaaa ataaatattt ttttcttac  
10441 tgtactgatt tggaaatcatt actgaaattt gtaaggagtg ggccaacgtg attaagtacc  
10501 ataaaggcaa ataaatggtt aaagacggtt tcatagaaaa gtgacaatta gaaggatatt  
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10621 cattgaggtt aaaacacaaa acaaaaaagc agctttaaca cctctgtctt ctcttgggta  
10681 gcagcctcct gcttctcctt cacttgaaaa atttccagg gacttcatcc attaaacttg  
10741 ctgagcttat tggcaggatt cacagtttaa gctgatgggt tggtagaga tgctttatcc  
10801 atattaatgg actgaaggaa gtaatggcaa gacaaccccc caaaacatac ctaattatac  
10861 aaagtatat accaaagttg cttttagaaa atggcctgct cagagcaagt agaggtttcc  
10921 aatggctttt tattttctca cattaaggat gttgtttctt aaggaacatt gagtaccatt  
10981 gcttctctgt gatagcctag gactgcccgt tgcccatgga ggtagagaca ccaggtactg  
11041 attctaggtc ctctgccaca aagcaccact tctctccac tttgccttg ctggccttgt  
11101 cagctcactg gagagcacag tattgcaatt gcagtattgc aaatggtcac tactaactga  
11161 attctctaag agcttgatta gccctcgaga atcttctctg ccttctcta atagtgtctg  
11221 aaggaattcc tggcatttaa caaatattag catgtagtga tcaactgtct cctaacagtg  
11281 acacatcaga aggatttcaa ataacagtct tcaggcatgc gtaatcaatg tctgtgcag  
11341 agtctccgtc ctcatgtatc ctcattttct tctttaaggc acagtccaat gtctttggg  
11401 aattgtttat aaagcttact ttatccataa actgtttctc agtgcggtgac tctgaagaaa  
11461 attttgaagt tttgcccatt ttgacaaggt gcttgggtct aacttgcca gtatttaac  
11521 ttgagcaaac gattcaattt ccttctatcg tgagttttct catctatgaa acaaggaggt  
11581 tgaggggagt ttctttcata cctctgagaa agagtgttag attacataaa gaagtgtgag  
11641 tggcatgaaa aaaaaataag atctgagctt agaagacatg gatctaatac atttaagagg  
11701 aagtcagaat cagagaagcc actgaacaaa acagtccaaa cggagcatag taagtcagat  
11761 tgatgagttt tggttgggtt tttcatcagt caaaccttg agccccctt tccatgctt  
11821 cctgcttcag tatccagtag gaaaaatgaa agggatgatg tagacactct agggcatgag  
11881 gatttgcagt aaataagttg ggagactcac agaaaattaa tatttttcaa acatgaagac  
11941 gaaacattca attatattac agtccacatc agcttgaaag gtaaaactgat gggatgatct  
12001 gtcacatttc ttgctctgtt tccagtaaaa gcatgggttc tggaaaccca cttaggacag  
12061 ctttctctct ttacactgat agcccaggca agctttgatc tcagaactcc agaaaccaga  
12121 gaactctag tggaaatgtg taacttttgc cagggcagag ggaacaccta ctaataggt

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1201

12181 cttcatttgc accaccagag attggcatct tttttgatgg atccactggc tttgatactg  
 12241 cctgtactcc cccaaaacac agcttgggta ttggactaat cttagagctcc ctcaggagaa  
 12301 ctcttgctga cattaagaaa gagcaacatt ttgtctttcc aggtgaaaaat ccaaggccaa  
 12361 aaaggagtg actcacctaa gatcacagaa ggagctgtag catctctgga gcctgaacac  
 12421 ttaagttaag cagcactatt tcacgcagag ggcatgaatt c

## (2) INFORMATION FOR SEQ ID NO:42:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1251 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

1 ggagctgttt acccccactc taataggggt tcaatataaa aagccggcag agagctgtcc  
 61 aagtcagacg cgctctgca tctgcgccag gcgaacgggt cctgcgcctc ctgcagctccc  
 121 agctctccac caccgcgcg tgccctgca gacgtccgc tcgtgcctt ctctcctggc  
 181 aggcgtgcc tttctcccc gttaaagggc acttgggctg aaggatcgct ttgagatctg  
 241 aggaaccgac agcgtttga gggacctgaa gctgttttc ttcgttttc tttgggttca  
 301 gtttgaacgg gaggtttttg atcccttttt ttcagaatgg attatttgc catgattttc  
 361 tctctgctgt ttgtggcttg ccaaggagct ccagaaacag cagtcttagg cgctgagctc  
 421 agcgcggtgg gtgagaacgg cggggagaaa cccactccca gtccaccctg gcggctccgc  
 481 cgggtccaagc gctgctcctg ctccctccctg atggataaag agtgtgtcta cttctgccac  
 541 ctggacatca tttgggtcaa cactcccgag cacgttgttc cgtatggact tggaaagcct  
 601 aggtccaaga gagccttgga gaatttactt cccacaaagg caacagaccg tgagaataga  
 661 tgccaatgtg ctagccaaaa agacaagaag tgctggaatt tttgccaagc aggaagaaga  
 721 ctcagggtcg aagacattat ggagaagaagc tggataatc ataagaaggc aaaagactgt  
 781 tccaagcttg ggaaaaagtg tatttatcag cagttagtga gaggaagaaa aatcagaaga  
 841 agttcagagg aacacctaag acaaaccagg tcggagacca tgagaaacag cgtcaaatca  
 901 tcttttcatg atcccaagct gaaaggcaag ccctccagag agcgttatgt gaccacaac  
 961 cgagcacatt ggtgacagac ttccgggcct gtctgaagcc atagcctcca cggagagccc  
 1021 tgtggccgac tctgactct ccaccctggc tgggacaga gcaggagcat cctctgctgg  
 1081 ttcttgactg gcaaaggacc agcgtcctcg ttcaaaacat tccaagaaag gttaaagggt  
 1141 tcccccaacc atcttactg gttccatca gtgtaactg ctttggctc ttcttcatc  
 1201 tgggatgac aatggacctc tcagcagaaa cacacagtca cattcgaatt c

## (2) INFORMATION FOR SEQ ID NO:43:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1166 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

1 ctgcgccagg cgaacgggtc ctgcgcctcc tgcagtccta gctctccacc gccgcgtgag  
 61 cctgcagacg ctccgctcgc tgccttctct cctggcaggc gctgcctttt ctccccgtta  
 121 aagggcactt gggctgaagg atcgctttga gatctgagga acccgacgag ctttgagggg  
 181 cctgaagctg tttttcttcg ttttctttg ggttcagttt gaacgggagg tttttgatcc  
 241 ctttttttca gaatggatta tttgctcatg attttctctc tgctgtttgt ggcttgccaa  
 301 ggagctccag aaacagcagt cttaggcgct gagctcagcg cggtgggtga gaacggcggg  
 361 gagaaaccca ctccagctcc accctggcgg ctccgcgggt ccaagcgctg ctctgctcg  
 421 tcctgatgg ataaagagtg tgtctacttc tgccacctgg acatcatttg ggtcaacact  
 481 cccgagcagc ttgttccgta tggaacttga agccctaggt ccaagagagc cttggagaat  
 541 ttacttccca caaaggcaac agaccgtgag aatagatgcc aatgtgctag ccaaaaagac  
 601 aagaagtgtc ggaattttt ccaagcagga aaagaactca gggctgaaga cattatggag  
 661 aaagactgga ataatacata gaaaggaaaa gactgttcca agcttgggaa aaagtgtatt  
 721 tatcagcagt tagtgagagg aagaaaaatc agaagaagtt cagaggaaca cctaaagaca  
 781 accaggtcgg agaccatgag aaacagcgtc aaatcatctt ttcatgatcc caagctgaaa  
 841 gccaagccct ccagagagcg ttatgtgacc cacaaccgag cacattgggt acagacttcg  
 901 gggcctgtct gaagccatag cctccacgga gagccctgtg gccgactctg cactctccac  
 961 cctggctggg atcagagcag gagcatcctc tgctggttcc tgactggcaa aggaccagcg  
 1021 tcctcgttca aaacattcca agaaagggtta aggagttccc ccaaccatct tcaactggct  
 1081 ccatcagtg taactgcttt ggtctcttct ttcactctgg gatgacaatg gacctctcag  
 1141 cagaaacaca cagtcacatt cgaattc

## (2) INFORMATION FOR SEQ ID NO:44:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14878 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

1 gatatactat taatacagag atacagaaa agaaatacataa aaaatagttt tatcaaatat  
 61 tttccagcat tcaagtgtag cctcaaaagc aagaataggc caggagtggg ggctcacgct  
 121 gtaatccaca gcaactgtgg aggccaaggt aagaggattg cttgaggcca ggatttcaag  
 181 accagcctag gcaacatagt gagatcccta tctctacgaa aaaattttta aacttagctg

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241 ggcattggtgc ttgagcctgt tgtcccagct actcaggagg tgaagtagga gtgtcacttg  
301 agcccaggag gttgaggctg cagtgaagta taactgcacc actgcactcc agccttggag  
361 acagagttag accctgtccc caaaaaaatt aaaattgaga aaaaaaaaaa ggcaagaaca  
421 gccacagcaa accttctatt ggggaaaaaa aaaaatcctc ctctttacat ctctcccttc  
481 ctcccttccc ctttctgaga gtgactgtgg ccaaaaggag catttccccc ctgagctct  
541 ctgaggggtg ggggtgggct atgaagctat ccttcatatt cactcctttg tccagctctt  
601 ttcacctcta gttcttctcc ccgcatctct gtctagcagt gccttaagtg gaggaggggt  
661 gggggcatca agcttgtaaa actggtttgt tggggttctc ctctccctct catttcttga  
721 ttcttgggaa aatgtcttgc tgggaggctg cctggcgagt gccctagctg ccttctgttg  
781 gcttgaatgg ggcttccctc tgccctaca ggaggaaaag ggagctgtg ccagaggag  
841 aaatggagag atggacagag aaggcagggt ccaccctcg cccctgacac acaaagaaaa  
901 agacacggaa attctctctc tctcttctct tctcctatct ctctctctct cctctctct  
961 ctctctctct ctctctctca cacacacaca cacacacaca cacacacaca caggcgcgcg  
1021 ccgcgcgcgc aggcacagct cttgcaaat caggattcaa agagacagg gcaccattat  
1081 atttggcagc gtggggcctt ccaggcttga aatcctgcat tcttcttacc tatttacttt  
1141 ccccgagctc gagaaggggc aggtgtgggc ggatggctgg ccacgttttg tgtttccaat  
1201 tcatattcac gggatgacac agacggggcg tggtagtgct gtttggaggc gcttgggagc  
1261 tttcattttg cccacttct ccactgaag gctggcggtt gctggagact ccaggggag  
1321 cctcagcaag gtgggggtgg gtggagtggt gtgggagaag ggactccagc tgaagttaga  
1381 cccaggctgg acctgagaat attggggagg gcatggcggt tggtttccgg gtaggggcct  
1441 tgaggacatg ttggtcctga ctggtgtcag tgtttgttca aagttgcaa aaggttaaaa  
1501 aaaaaaaagt agggggagtc cctgccaaga catatttccc aggccacctt tcttccgagg  
1561 gaagtgttgg ggggaggcgc tgcttggaa ctgtgaatgt gacatcagct ctctctctct  
1621 ctcccaaggt cggcttttga gagggaggtc agggcaccct tgcctggcac aggcacgctg  
1681 gcttccgctc cagtgcgcgc tgctctccgg gagctgtgct ctccctgggc cccggggcta  
1741 ggctgaggtg agcgcacagc ggaggccagg cgcgccggca gaggcctggg gtagaggtg  
1801 gaggcatctc tgggtgttgg tgggtgtgtg ggtgtgggag ggagagttct tgcctctctc  
1861 tctcccatct ccaactcttg cttcagtggt tcttttagag gatgcatgtc attatggacc  
1921 tgtcgtgcc actgtccctg ttccccagc tgtgacttcc agggaggtct ggggatctga  
1981 gtctgtccaa acccagggct ttgctgttgg gataaaaact gtcttttga ttttagaagg  
2041 agggaggaaa aaaggtttcc cagcatgtgt gttgtgccag tcttggaaat tcatccgtc  
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1205

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## (2) INFORMATION FOR SEQ ID NO:45:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

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 481 acgggattct ccacggtatc ctgtggttcc agttcacctg gataccacca tctaagctcc  
 541 tgtatcagca gtctcatca tcaactcatc gccaaagctcc tcaatcatag ccaagatccc  
 601 atccctccat gtactctggg tatcagcaac tgtcctcatc agtctccata ccccttcagc  
 661 tttctctgagc tgaagtccct tgtgaaccct gcaataaact gctttgcaa ttcaaaaa

## (2) INFORMATION FOR SEQ ID NO:46:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 725 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

1 gaacaaccag ctggtacagt tctcacagga gccacagctc agagactggg aaacatggtt  
 61 ccaaaactgt tcacttccca aattgtctgt cttcttctgt tggggcttat ggggtgtggag  
 121 ggctcactcc atgccagacc cccacagttt acgagggtc agtggtttgc catccagcac  
 181 atcagtctga acccccctcg atgcaccatt gcaatgcggg caattaacaa ttatcgatgg  
 241 cggtgcaaaa accaaaatac tttcttctgt acaacttttg ctaatgtagt taatgtttgt  
 301 ggtaacaaaa gtatacgtg ccctcataac agaactctca acaattgtca tcggagttaga  
 361 ttccgggtgc ctttactcca ctgtgacctc ataaatccag gtgcacagaa tatttcaaac  
 421 tgcaggtatg cagacagacc aggaaggagg ttctatgtag ttgcatgtga caacagagat  
 481 ccacgggatt ctccacggtg tcctgtgggt ccagttcacc tggataccac catctaagct  
 541 cctgtatcag cagtcctcat catcactcat ctgccaagct cctcaatcat agccaagatc  
 601 ccatccctcc atgtactctg ggtatcagca actgtcctca tcagttctca tacccttcca  
 661 gctttctctga gctgaagtcc cttgtgaacc ctgcaataaa ctgctttgca aattc

## (2) INFORMATION FOR SEQ ID NO:47:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1452 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

1 ctgccagcag cgtatagttt tcaccagag tccagatccc accggcaaaa ctctgtctaa  
 61 cacaggatga cttggaatta gactccgtat agcagaaaga gcagcagggc tgtccttggg  
 121 tatccgttgc tcagccaagt catcaaataa aaaggatgat tgcacaagtg gaccatgtgt  
 181 caatctgttg gtttctgcat ggccagaccc accaagggaa gctttattta aacagttcca  
 241 agtaggggag accagctgcc cctgaacccc agaacaacca gctggatcag ttctcacagg  
 301 agccacagct cagagactgg gtaagtcaac aatccccaga gctgggacag gaggggcagc  
 361 gacagggcag cacctgaggg agaggtgagc tgaagttagt gcttaggaga tgtggcacac

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```
421 ttgggggaca ggaagaaaag gaaatgcgac cccagagtgg cagcagaggg gcctgtgggt
481 tgagacacta tagagtgtgt cataaccgag accggtatgg ggagtagtta cttctcttct
541 tttcttacag gaaacatggt tccaaaactg ttcacttccc aaatttgtct gcttcttctg
601 ttggggctta tgggtgtgga gggctcactc catgccagac cccacagtt tacgagggtc
661 cagtgtgttg ccatccagca catcagtcgt aacccccctc gatgcacat tgcaatgcgg
721 gcaattaaca attatcgatg gcgttgcaaa aacaaaata cttttcttcg tacaactttt
781 gctaattgtag ttaattgttg tggtaaccaa agtatacgct gccctcataa cagaactctc
841 aacaattgtc atcggagtag attccgggtg cctttactcc actgtgacct cataaatcca
901 ggtgcacaga atatttcaaa ctgcaggtat gcagacagac caggaaggag gttctatgta
961 gttgcatgtg acaacagaga tccacgggat tctccacggt atcctgtggt tccagttcac
1021 ctggatacca ccatctaagc tctgtatca gcagtcctca tcatcactca tctgccaagc
1081 tctcaatca tagccaagat cccatccctc catgtactct gggatcagc aactgtcctc
1141 atcagtcctc atacccttc agctttctcg agctgaagtc ccttgtgaac cctgcaataa
1201 actgctttgc aaattcatct ggaagtgtct gtgtgtcttc ctggccgct ctgctgtcat
1261 ttagtgacaa tctgctctag agatttgggt ttatcatgaa tctctcccc tcaatatctg
1321 accaaattcc ttgattcccc catcatcctt catgtgatac ctgattccag gcctgcctta
1381 aaaaaaaatc caattgagtc aacttagcat tggctccctc agccttaata tctcctctaa
1441 gcaattttcc at
```

## (2) INFORMATION FOR SEQ ID NO:48:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2395 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

```
1 aggggcagct ggatcagttc tcacaggagc cacagctcag agactgggaa acatggttcc
61 aaaactgttc acttcccaaa tttgtctgct tcttctgttg gggcttatgg gtgtggaggg
121 ctcactccat gccagacccc cacagtttac gagggtcag tggtttgcca tccagcacat
181 cagtctgaac cccctcgcgt gcaccattgc aatgcgggca attaacaatt atcgatggcg
241 ttgcaaaaac caaaatactt ttcttcgtac aacttttgc aatgtagtta atgtttgttg
301 taaccaaaagt atacgctgcc ctcataacag aactctcaac aattgtcatc ggagtagatt
361 cgggtgcct ttactccact gtgacctcat aaatccaggt gcacagaata tttcaaactg
421 caggtatgca gacagaccag gaaggaggtt ctatgtagtt gcattgtgaca acagagatccc
481 acgggattct ccacgggtatc ctgtggttcc agttcacctg gataaccacca ctaagctccc
541 tgtatcagca gtcctcatca tcaactcatc gccaaagctcc tcaatcatag ccaagatccc
601 atccctccat gtactctggg tatcagcaac tgtcctcatc agtctccata ccccttcagc
661 tttctctgagc tgaagtcctt tgtgaaccct gcaataaact gctttgcaaa ttcaaaaa
1 gaacaaccag ctggatcagt tctcacagga gccacagctc agagactggg aaacatggtt
61 ccaaaaactgt tcaacttccca aatttctctg tcttctcttg tgggtgtggag ggggtgtggag
121 ggctcactcc atgccagacc cccacagttt acgagggtc agtgggttgc catccagcac
181 atcagtctga acccccctcg atgcaccatt gcaatgcggg caattaacaa ttatcgatgg
241 cgttgcaaaa accaaaatac ttttctctgt acaacttttg ctaatgtagt taatgtttgt
301 ggttaaccaaa gtatacgctg cctcataac agaacttca acaattgtca tgggagtaga
361 ttccgggtgc ctttactcca ctgtgacctc ataaatccag gtgcacagaa tatttcaaac
421 tgcaaggtatg cagacagacc aggaaggagg ttctatgtag ttgcatgtga caacagagat
481 ccacgggatt ctccacggta tctgtgtggt ccagttcacc tggataccac catctaagct
541 cctgtatcag cagtcctcat catcactcat ctgccaagct cctcaatcat agccaagatc
601 ccatccctcc atgtactctg ggtatcagca actgtcctca tcaagtctca tacccttca
661 gctttctctga gctgaagtcc cttgtgaacc ctgcaataaa ctgctttgca aattc
1 ctgccagcag cgtatagttt tcaccagag tccagatccc accggcaaaa ctctgtctaa
61 cacaggatga cttggaatta ggtccggtat agcagaaaga gcagcagggc tgtccttggg
121 tatccgttgc tcagccaagt catcaataa aaaggatgat tgcacaagt gaccatgtgt
181 caatctgtgg gtttctgcat ggccagaccc accaaggga gctttattta aacagttcca
241 agtaggggag accagctgcc cctgaacccc agaacaacca gctggatcag ttctcacagg
301 agccacagct cagagactgg gtaagtcaac aatccccaga gctgggacag gaggggcagc
361 gacagggcag cacctgaggg agaggtgagc tgaagttagt gcttaggaga tgtggcacac
421 ttgggggaca ggaagaaaag gaaatgcgac cccagagtgg cagcagaggg gcctgtgggt
481 tgagacacta tagagtgtgt cataaccgag accggtatgg ggagtagtta cttctcttct
541 tttcttacag gaaacatggt tccaaaactg ttcacttccc aaatttgtct gcttcttctg
601 ttggggctta tgggtgtgga gggctcactc catgccagac cccacagtt tacgagggtc
661 cagtgtgttg ccatccagca catcagtcgt aacccccctc gatgcacat tgcaatgcgg
721 gcaattaaca attatcgatg gcgttgcaaa aacaaaata cttttcttcg tacaactttt
781 gctaattgtag ttaattgttg tggtaaccaa agtatacgct gccctcataa cagaactctc
841 aacaattgtc atcggagtag attccgggtg cctttactcc actgtgacct cataaatcca
901 ggtgcacaga atatttcaaa ctgcaggtat gcagacagac caggaaggag gttctatgta
961 gttgcatgtg acaacagaga tccacgggat tctccacggt atcctgtggt tccagttcac
1021 ctggatacca ccatctaagc tctgtatca gcagtcctca tcatcactca tctgccaagc
1081 tctcaatca tagccaagat cccatccctc catgtactct gggatcagc aactgtcctc
1141 atcagtcctc atacccttc agctttctcg agctgaagtc ccttgtgaac cctgcaataa
1201 actgctttgc aaattcatct ggaagtgtct gtgtgtcttc ctggccgct ctgctgtcat
1261 ttagtgacaa tctgctctag agatttgggt ttatcatgaa tctctcccc tcaatatctg
1321 accaaattcc ttgattcccc catcatcctt catgtgatac ctgattccag gcctgcctta
1381 aaaaaaaatc caattgagtc aacttagcat tggctccctc agccttaata tctcctctaa
1441 gcaattttcc at
```

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## (2) INFORMATION FOR SEQ ID NO:49:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 694 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

```
1 cacaggagct acagcgcgga gactggaaac atggttccaa aactgttcac ttcccaaatt
 61 tgtctgcttc ttctgttggg gcttctggct gtggagggt cactccatgt caaacctcca
121 cagtttacct gggctcaatg gtttgaaacc cagcacatca atatgacct ccagcaatgc
181 accaatgcaa tgcaggcat taacaattat caacggcgat gcaaaaacca aaatactttc
241 cttcttacaa cttttgctaa cgtagttaat gtttggta acccaaatat gacctgtcct
301 agtaacaaaa ctgcacaaaa ttgtcaccac agtggaaagg aggtgccttt aatccactgt
361 aacctcacia ctccaagtcc acagaatatt tcaaaactgca ggtatgcgca gacaccagca
421 aacatgttct atatatgttc atgtgacaac agagatcaac gacgagacc tccacagtat
481 ccggtgttcc cagttcacct ggatagaatc atctaagctc ctgtatcagc actcctcatc
541 atcactcatc tgccaagctc ctcaatcata gccaaagatcc catctctcca tatactttgg
601 gtatcagcat ctgtcctcat cagtctccat acccctcag ctttcttgag ctgaagtgcc
661 ttgtgaaccc tgcaataaac tgctttgcaa attc
```

## (2) INFORMATION FOR SEQ ID NO:50:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1489 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

```
1 ctgcaggcag catatagttt tcatccagag ttggtacta accagcaaaa ctctgtctta
 61 cacaggatga cttggaatta gagtccttat agcagaaaga gcagcagggtc tgtccttggg
121 tatccgttgc tcagccaagt catcaataaa aaaggatgat tgcacaagt gactatgtac
181 caatctgtgg gtttctgcat ggccaagagc cagaccctcc ctctgggctc tgttgcccca
241 acccaaccaag ggtatgttta ttaaacagt tccaagttag ggagaccagc tgccctgaa
301 cccagaaaca accagctgga tcagttctca caggagctac agcgcggaga ctgggtaagt
361 caacgatccc cagagctggg acagaagggg cagcaatggg gcagcaactg agggagaaga
421 gagctgacgt tagtgcttag gagacgttgc acactttgca gacaggaagt aaaggaaatg
481 ggaccccgca gtggccgcag aggggcctgt ggggtaagac actacagtgt gtgtcataac
541 caagaccgca tcaggagata gttacttctc ttcttttctt acaggaaaca tggttccaaa
601 actgttcaat tccaaaattt gtctgttctt tctgttgggg cttctggctg tggagggtc
661 actccatgtc aaacctccac agtttacctg ggctcaatgg tttgaaaccc agcacatcaa
721 tatgacctcc cagcaatgca ccaattgcat gcaggtcatt aacaattatc aacggcgatg
781 caaaaaccaa aatactttcc ttcttacaac ttttgtaac gtagttaatg tttgtgtaa
841 cccaaatatg acctgtccta gtaacaaaac tcgcaaaaat tgcaccaca gtggaagcca
901 ggtgccttta atccactgta acctcacaac tccaagtcca cagaatattt caaactgcag
961 gtatgcgcag acaccagcaa acatgttcta tatagttgca tgtgacaaca gagatcaacg
1021 acgagaccct ccacagtatc cggtgttccc agttcacctg gatagatca tctaagctcc
1081 tgtatcagca ctctcatca tcaactcatc gccaaagctc tcaatcatag ccaagatccc
1141 atctctccat atactttggg tatcagcatc tgtcctcatc agtctccata ccccttcagc
1201 tttcctgagc tgaagtgcct tgtgaaccct gcaataaact gctttgcaaa ttcacttgaa
1261 agtgtctgtg tgtcttcatt agcgcctctg ctgtcattta gtgacaatct actctagaga
1321 tttttcttcc tctaacttga gacttccggg aaacagagag atttgaagat aagagacgct
1381 ttctgtcatg aaacagcaca gtcttatccc tctccctgct ttaggtgag aagctgaggt
1441 ctcaaccgat atctagcaac tgtcgaagac tcttgccttg atcaagctt
```

## (2) INFORMATION FOR SEQ ID NO:51:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 735 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

```
1 gctgccccctg aacccagaa caaccagctg gatcagttct cacaggagct acaggccgga
 61 gactgggaaa catggttcca aaactgttca cttcccaaat ttgtctgctt cttctgttgg
121 ggcttctggc tgtggagggtc tcaactccatg tcaaacctcc acagtttacc tgggtcaaat
181 gggttgaaac ccagcacatc aatatgacct cccagcaatg caccaatgca atgcaggta
241 ttaacaatta tcaacggcga tgcaaaaacc aaaatacttt cttctttaca acttttgcta
301 acgtagttaa tgtttgtgtt aacccaaata tgacctgtcc tagtaacaaa actcgcaaaa
361 attgtcacca cagtggaaagc caggtgcctt taatccactg taacctcaca actccaaagt
421 acagaaatat ttcaaaactgc aggtatgcgc agacaccagc aaacatgttc tatatagttg
481 catgtgacaa cagagatcaa cgacgagacc ctccacagta tccgggtggt ccagttcacc
541 tggatagaat catctaagct cctgtatcag cactcctcat catcactcat ctgccaaagt
601 cctcaatcat agccaagatc ccatctctcc atatactttg ggtatcagca tctgtcctca
661 tcagtctcca tacccttca gctttcctga gctgaagtgc cttgtgaacc ctgcaataaa
721 ctgctttgca aattc
```

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## (2) INFORMATION FOR SEQ ID NO:52:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2918 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

```
1 cacaggagct acagcgcgga gactggaaac atgggtccaa aactgttcac ttcccaaatt
61 tgtctgcttc ttctgttggg gcttctggct gtggagggt cactccatgt caaacctcca
121 cagtttacct gggctcaatg gttgaaacc cagcacatca atatgacct ccagcaatgc
181 accaatgcaa tgcaggtcat taacaattat caacggcgat gcaaaaacca aaatactttc
241 cttcttataa cttttgctaa cgtagttaat gtttgtggta acccaaatat gacctgtcct
301 agtaacaaaa ctgcacaaaa ttgtcaccac agtgggaagc aggtgccttt aatccactgt
361 aacctcacia ctccaagtcc acagaatatt tcaaactgca ggtatgcgca gacaccagca
421 aacatgttct atatagttgc atgtgacaac agagatcaac gacgagacc tccacagtat
481 ccggtgttgc cagttcacct ggatagaatc atctaagctc ctgtatcagc actcctcatc
541 atcactcatc tgccaagctc ctcaatcata gccaaagatcc catctctcca tatactttgg
601 gtatcagcat ctgtcctcat cagtctccat accccttcag ctttcttgag ctgaagtgc
661 ttgtgaaccc tgcaataaac tgctttgcaa attc
1 ctgcaggcag catatagttt tcattccagag ttggatcta accagcaaaa ctctgtctta
61 cacaggatga cttggaatta gactccttat agcagaaaga gcagcagggc tgtccttggg
121 tatccgttgc tcagccaagt catcaaataa aaaggatgat tgcacaagt gactatgtac
181 caatctgtgg gtttctgcat ggccaagagc cagacctcc ctctgggctc tgtgggccc
241 acccaccagg ggatgcttta tttaaacagt tccaagttag ggagaccagc tgcccctgaa
301 ccccgagaac accagctgga tcagtcttca caggagctac agcgcggaga ctgggtaagt
361 caacgatccc cagagctggg acagaagggg cagcaatggg gcagcaactg agggagaaga
421 gagctgacgt tagtgcttag gagacgttgc acactttgca gacaggaagt aaaggaaatg
481 ggaccccgag gtggcccgag aggggcctgt ggggtaagac actacagtgt gtgtcataac
541 caagaccgga tcagggagta gttacttctc ttcttttctt acaggaaaca tggttccaaa
601 actgttctac tcccaaatct tctgttctct tctgttgggg cttctggctg tggagggtc
661 actccatgtc aaacctccac agtttacctg ggctcaatgg ttgaaaacc agcacatcaa
721 tatgacctcc cagcaatgca ccaatgcaat gcaggctcatt aacaattatc aacggcgatg
781 caaaaaccaa aatactttcc ttcttacaac ttttgctaac gtagttaatg tttgtggtta
841 cccaaatatg acctgtccta gtaacaaaac tcgcaaaaat tgtcaccaca gtggaagcca
901 ggtgccttta atccactgta acctcacaac tccaagtcca cagaatattt caaactgcag
961 gtatgcgcag acaccagcaa acatgttcta tatagttgca tgtgacaaca gagatcaacg
1021 acgagaccct ccacagatc cggtggttcc agttcacctg gatagaatca tctaagctcc
1081 tgtatcagca ctctcatca tcaactatct gccaaagctc tcaatcatag ccaagatccc
1141 atctctccat atactttggg tatcagcatc tgtcctcatc agtctccata ccccttcagc
1201 tttcctgagc tgaagtgcct tgtgaaccct gcaataaaact gctttgcaaa ttcattctgaa
1261 agtgtctgtg tgtcttcatt agccgctctg ctgtcattta gtgacaatct actctagaga
1321 tttttcttcc tctaacctga gacttccggg aaacagagag atttgaagat aagagacgct
1381 ttctgtcatg aaacagcaca gtcttatccc tctccctgct ttaggctgag aagctgaggt
1441 ctcaaccgat atctagcaac tgtcgaagac tcttgctttg atcaagctt
1 gctgcccctg aacccagaa caaccagctg gatcagttct cacaggagct acaggccgga
61 gactgggaaa catggttcca aaactgttca cttcccaaatt ttgtctgctt cttctgttgg
121 ggcttctggc tgtggagggc tcaactccatg tcaaacctcc acagtttacc tgggtcctaat
181 ggtttgaaac ccagcacatc aatatgacct cccagcaatg caccaatgca atgcaggatca
241 ttaacaatta tcaacggcga tgcaaaaacc aaaatacttt cttcttatac acttttgcta
301 acgtagttaa tgtttgtggt aacccaaata tgacctgtcc tagtaacaaa actcgcaaaa
361 attgtcacca cagtgaagc caggtgcctt taatccactg taacctcaca actccaagtc
421 cacagaatat ttcaaactgc aggtatgcgc agacaccagc aaacatgttc tatatagttg
481 catgtgacaa cagagatcaa cgacgagacc ctccacagta tccggtgggt ccagttcacc
541 tggatagaat catctaagct cctgtatcag cactcctcat catcactcat ctgccaagct
601 cctcaatcat agccaagatc ccactctctc atatactttg ggtatcagca tctgtcctca
661 tcagtctcca tacccttca gcttctctga gctgaagtgc cttgtgaacc ctgcaataaa
721 ctgctttgca aattc
```

## (2) INFORMATION FOR SEQ ID NO:53:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 391 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

```
1 ccatggagga aggtcaatat tcaggtagga ggactctctg gttctaactg tggcagaagc
61 aatgacctt agctactcct ttaccacaga agagaagcgg ggcttccag tccctctctg
121 ggaaagaggg tgaatttcta agaaaggagc tgggtgaggt aaggagggtg gggcgactg
181 actttcttgg cacagagcca ggaaggagtg gaaaattgag ggccctcct tttctgatt
241 caacaccctc ctgacaaaaa aagaaaaaga aaaaaaaaaa cggcttcagc tagggagcgg
```

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301 ggacgcaata gagtcagagg ccaaatagaa caggaacttg gaacaagcag aatttagcat  
361 aatgaatcct ccaagccagg gtgagtgcag a

## (2) INFORMATION FOR SEQ ID NO:54:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3108 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

1 aagcttgga ataagtcag ctgggccatg ttgtgaggac atggggatga agtcttagtt  
61 ccaggatggg gctgggatgg agtttgggtg tcttttctg tttttcttc tttttcttt  
121 tctttttttt ttttgtgaga cagagtttag ctttggttgc ccaggctgga atgcaatggc  
181 ggatctcggc tcaccgcaac ctctgcctcc cggattcaag cgattctcct gcctcagcct  
241 cccgagtagc taggattaca ggtgccacc accatgccca gctaattttt ttttttttt  
301 tttttttttg tattttcagt agatacaggg ttccaccatg ttggccttga actcctgacc  
361 tcagatgatc cacctgcctc ggccctccaa agtgctggga ttacaggcgc tgacgatgtg  
421 cccggtctct ctctctctct tctctctct ctttctttca tctcactgtg ttgcccagg  
481 ctgatcttga actcctgggc tcaagtgtac cactcacctc tgcctcccca gtatctggga  
541 tcacaggcat gcaccaccat gccctgctag tttttatagt ttttgtagag acaacggctt  
601 gctatgttgt ccaggctggt cttgaactcc caggcttaag tgatcctccc acctcagcct  
661 cccaaagtgc tgggattaca ggctgaacg tccgtgccag ccaaatgtc catatttgac  
721 ctgaatatta tctcacgtat ctttctttcc ccccgcttcc ctctctcct cctactcctc  
781 cttctccttc tcttctcttc tgtctttttt tccccctcc tctgctctc tctctcttc  
841 ctttttttct tgctgggact caaacctggg acatttgacc tgggagccta tttgtcaat  
901 catcaagaga cataatctca tgggtgggtg tctgctggtg agtgccgggt ggcaggatcc  
961 caactccagg ccgtccttct aaccaagag gccctgcctc tgcctagagc ctccgtggc  
1021 tccccagggc cctctgtgat cggccatagt ggtatgattc agtgctcagt aacagtgggt  
1081 cacatcttga cgctaccact cactccttcc agcctgtgtg gaacttgctg cttaacatct  
1141 ctagtcttca cccaattctc ttacctgaga aatggagata ataataacac ggacttcacc  
1201 cgggtgtggg gagcaccagg agagccatg cgtgtaagt tatccgggtg gcaagccat  
1261 atttaggtct atgaaaatag aagctgtcag tggctctact ttcagaagaa agtgctctc  
1321 ttctgtctta aacctctgtc tctgacggtc cctgccaatc gctctggtcg accccaacac  
1381 actaggagga cagacacagg ctccaaactc cactaagtga gtacgtatct ggtgtgttg  
1441 gggttggccc atgggcagtg gagatcaaa cgccttgga agaaacgacc ttgggtgag  
1501 cctcaaggga tgaccagcag gaggtcacaa ccagagaagg gaggtggtgg gtggtgagg  
1561 ggcgggggtg ggggcccagc tgtggacaga atctcgaggc attcgagtcc ctgatttggg  
1621 gaagtgaag caggccatct ggtctgagat gagcttgggt agtgcgctgg gccgatcata  
1681 gagggccctg gggagccatg gaagactcta ggcagaggca ggacctctg ggttagaagg  
1741 acggcctgga gttgggatcc tgccaccag cacttaccag tagacacccc acctgagat  
1801 tatgtctcca gatgattgag caaatgggct cccagctcaa ggggtcccggg tttgagtcca  
1861 gtcccaccac tgcgtgatgg ggacaaatga cttaccctct tggaaacctc gttccactga  
1921 gagaggcccc acagaatgag gacagctccc cagcatcctg ccagtaggtt tactgagcac  
1981 ctactgtgtg ctggtgcttt gaatactccc aatttacaga tgagcaaatc gagctgctca  
2041 tccagggaga agccaggact cggactcagg tctgtccagc tgcctcctg gacagtcca  
2101 gtcccaggat ggtctctggg tctctctcac aatgtcaaaa gggccagctt gagctgccgc  
2161 taatcagagc ctggccgcgc cacacccccc ctccctgagg ctccgagaga agggacttac  
2221 ctatagtcaa gcagcgaag aaggtagccc gtgacctcca ggcctgaagg accccaagtc  
2281 ccatgctcct cagcacatag tagatgcttt aaagtacag gacttggctg ggcgcaggca  
2341 cgctgtaat cctagcactt tgggaggctg agggaggcag atcacctgtg gtcaggaggt  
2401 cgagaccagc ctgatcaata tgggtgaaacc ctgtctctac taaaatacaa aaattagcca  
2461 ggtgtggtgg tgggtgctg tagtcccagc tacttgggag gctaagacag gagaatcgct  
2521 tgaacccggg aggtggaggt tgcaagtgag caagatggtg ccattgcact ctgacctggg  
2581 tgacagagcg agactccatc tcaaaaaata aaaaaatagg ccatgcacag gctcacgcct  
2641 gtaatcccag cactttggga ggccgaggcg ggcggatcat gaggtcagga gtttgagact  
2701 agcctggcca acatagtga aaccctgtc tactaaaaat acaaaaaatta tctggtcatg  
2761 gtggcacgtg actatagtc cagctactcg ggaggctgag gcgggagaat cgctgaacc  
2821 caggaggtgg aggtggcagt gagccgagat cgtgccctg cactccagcc tgggcaacag  
2881 agcgagactc catttcaata aataaataaa taaataaagt cagagcactt tacagatgcc  
2941 ctggggacat tggcagagga gaagctgag gcctgggtta tgggctctta gcatttctca  
3001 gtgggacgtg gcacagagta gatgtttcat aaatgtttag aatctgaaga cccactgtgc  
3061 gcagcccgcc accaaaaacc tcaggtatgc tgtgatctca ttggatcc

## (2) INFORMATION FOR SEQ ID NO:55:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1503 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

1 ctccgtgcta aacctctgtc tctgacggte cctgccaatc gctctggtcg accccaacac  
61 actaggagga cagacacagg ctccaaactc cactaagtga ccagagctgt gattgtgccc  
121 gctgagtggg ctgctgtgtc agggagttag tgctccatca tcgggagaat ccaagcagga  
181 ccgccatgga ggaaggtcaa tattcagaga tcgaggagct tcccaggagg cgggtgtgca  
241 ggcgtgggac tcagatcgtg ctgctggggc tggtagccgc cgctctgtgg gctgggctgc

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```
301 tgactctgct tctcctgtgg cactgggaca ccacacagag tctaaaacag ctggaagaga
361 gggtgcccga gaacgtctct caagtttcca agaacttggg aagccaccac ggtgaccaga
421 tggcgagaa atcccagtc acgcagattt cacaggaact ggaggaactt cgagctgaac
481 aggcagagatt gaaatctcag gacttggagc tgtcctggaa cctgaacggg cttcaagcag
541 atctgagcag cttcaagtcc caggaattga acgagaggaa cgaagcttca gatttgctgg
601 aaagactccg ggaggagggtg acaaagctaa ggatggagtt gcaggtgtcc agcggctttg
661 tgtgcaacac gtgccctgaa aagtggatca atttccaacg gaagtgtctac tacttcggca
721 agggcaccac gcagtgggtc cagcccgggt atgcctgtga cgacatggaa gggcagctgg
781 tcagcatcca cagcccggag gagcaggact tcttgacca gcacatggag caccgggct
841 cctggattgg ccttcggaac ttggacctga agggagagtt tatctgggtg gatgggagcc
901 atgtggacta cagcaactgg gctccagggg agcccaccag ccggagccag ggcgaggact
961 gcgtgatgat gcggggctcc ggtcgttggg acgacgcctt ctgagaccgt aagctggggc
1021 cctgggtgtg cgaccggctg gccacatgca cgcccggagc cagcgaaggt tcccgaggat
1081 ccatgggacc tgattcaaga ccagaccctg acggccgctt gcccaccccc tctgcccctc
1141 tccactcttg agcatggata cagccaggcc cagagcaaga cctgaagac ccccaaccac
1201 ggcctaaaag cctctttgtg gctgaaaggt ccctgtgaca ttttctgcca cccaaaccga
1261 ggcagctgac acatctcccg ctctctatg gccctgctt tccagggat acaccggact
1321 agcaccctct ccagatggga gtgcccccaa cagcaccctc tccagatgag agtacacccc
1381 aacagacccc tctccagatg cagcccatc tcctcagcac cccaggacct gagtatcccc
1441 agctcagggt gtgagtcctc ctgtccagcc tgcataata aaatggggca gtgatggcct
1501 ccc
```

## (2) INFORMATION FOR SEQ ID NO:56:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1530 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

```
1 agtggctcta ctttcagaag aaagtgtctc tcttctgtct taaacctctg tctctgacgg
61 tccctgccaa tcgctctggt cgacccaac acactaggag gacagacaca ggctccaaac
121 tccactaacc agagctgtga ttgtgcccgc tgagtggact gcgttgtcag ggagtgagt
181 ctccatcatc gggagaatcc aagcaggacc gccatggagg aaggtcaata ttcagagatc
241 gaggagcttc ccaggaggcg gtgttgacgg cgtgggactc agatcgtgct gctggggctg
301 gtgaccgccc ctctgtggcg tgggctgtct actctgcttc tctgtggca ctgggacacc
361 acacagagtc taaaacagct ggaagagagg gctgcccagg acgtctctca agtttccaa
421 aacttggaag gccaccacgg tgaccagatg gcgcagaaat cccagtcac gcagatttca
481 caggaactgg aggaacttcg agctgaacag cagagattga aatctcagga cttggagctg
541 tccctggaac tgaacgggct tcaagcagat ctgagcagct tcaagtccca ggaattgaac
601 gagaggaacg aagcttcaga tttgctggaa agactccggg aggaggtgac aaagctaagg
661 atggagtgtc aggtgtccag cggctttgtg tgcaacacgt gccctgaaa gtgatcaat
721 ttccaacgga agtgctacta cttcggcaag ggacccaagc agtgggtcca cggccggat
781 gcctgtgacg acatggaagg gcagctgggt agcatccaca gcccggagga gcaggacttc
841 ctgaccaagc atgccagcca caccggctcc tggattggcc ttcggaactt ggacctgaag
901 ggagagttaa tctgggtgga tgggagccat gtggactaca gcaactgggc tccaggggag
961 cccaccagcc ggagccaggg cgaggactgc gtgatgatgc ggggctccgg tgcgtggaac
1021 gacgccttct gcgaccgtaa gctggggccc tgggtgtgag accggctggc cacatgcagc
1081 cggccagcca gcgaagggtc cgcggaagtc atgggacctg attcaagacc agaccctgac
1141 ggccgctgac ccacccccctc tgcccctctc cactcttgag catggatata gccaggccca
1201 gagcaagacc ctgaagaccc ccaaccacgg cctaaaagcc tctttgtggc tgaaggtcc
1261 ctgtgacatt ttctgccacc caaacggagg cagctgacac atctcccgt cctctatggc
1321 cctctgcttc ccaggagtac accccaacag caccctctcc agatgggagt gcccacaac
1381 gcaccctctc cagatgagag tacaccccaa cagcaccctc tccagatgca gccccatctc
1441 ctacgacccc caggacctga gtatccccag ctgaggtggt gattcctcct gtccagcctg
1501 catcaataaa atggggcagc gatggcctcc
```

## (2) INFORMATION FOR SEQ ID NO:57:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5533 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

```
1 ccatggagga aggtcaatat tcaggtagga ggactctctg gttctaactg tggcagaagc
61 aatgaccctt agctactcct ttcaccacga agagaagcgg ggcttcccag tccctctctg
121 ggaagagggt tgaatttcta agaaaaggac tgggtgtgag aaggaggtga ggcgcactg
181 actttctctg cacagagcca ggaaggagtg gaaaattgag ggcccctcct ttttctgatt
241 caacaccctc ctgacaaaaa aagaaaaaga aaaaaaaaaa cggcttcagc tagggagcgg
301 ggacgcaata gattcagagg ccaaatagaa caggaacttg gaacaagcag aatttagcat
361 aatgaatcct ccaagccagg gtgagtcgag a
1 aagcttgga ataagtcag ctgggcatg ttgtgaggac atggggatga agtcttagtt
61 ccaggatggg gctgggatgg agtttgggtt tcttttcttg tttttctttc tttttctttt
121 tctttttttt ttttgtgaga cagagtttag cttttgttgc ccaggctgga atgcaatggc
181 ggatctcggc tcaccgcaac ctctgcctcc cggattcaag cgattctcct gcctcagcct
241 ccgagtagc taggattaca ggtgcccacc accatgcca gctaattttt tttttttttt
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301 tttttttttg ttttttcagt agatacaggg tttcaccatg ttggccttga actcctgacc  
361 tcagatgatc cactctgctc ggcctcccaa agtgctggga ttacaggcgc tgacgatgtg  
421 cccgggtctc ctctctctct tctctctctc cttctcttca tctcactgtg ttgccccagg  
481 ctgatcttga actcctgggc tcaagtgatc cactcacctc tgctcccca gtagctggga  
541 tcacaggcat gcaccacat gccctgctag tttttatagt tttttagag acaacgggtt  
601 gctatgttgt ccaggctggt cttgaactcc caggcttaag tgatcctccc acctcagcct  
661 cccaaagtgc tgggattaca ggcgtgaacg tccgtgccag ccaaatctgc catatttgac  
721 ctgaatatta tctcacgtat ctttctttcc ccccgcttcc ctcttctctc cctactctct  
781 cttctccctc tcttctcttc tgtctttttt ttcccttccc tctgcctctc tctctctctc  
841 ccttttttct tgctgggact caaacctggg acatttgacc tgggagccta tttgctcaat  
901 catcaagaga cataatctca tgggtgggtg tctgctggtg agtgccgggt ggcaggatcc  
961 caactccagg ccgtccttct aacccaagag gccctgcctc tgccatagag cttccgtggc  
1021 tccccagggc cctctgtgat cgccatagt ggtatgattc agtgctgagt aacagtgtgt  
1081 cacatcttga cgctaccact cactcctctc agcctgtgtg gaacttgctg cttaacatct  
1141 ctagtcttca cccaattctc ttacctgaga aatggagata ataataacac ggacttcacc  
1201 cgggtgtgtg gagcaccagg agaggccatg cgtgtaatgt tatccgggtg gcaagcccat  
1261 atttaggtct atgaaaatag aagctgtcag tggctctact ttcagaagaa agtgctctc  
1321 tctctgctta aacctctgtc tctgacgtgc cctgccaatc gctctggtcg accccaacac  
1381 actaggagga cagacacagg ctccaaactc cactaagtga gtacgtatct ggtgtgttg  
1441 ggggttgccc atgggcagtg gaggtcaca ccagagaagg gaggtgtgtg gtggtgagg  
1501 cctcaaggga tgaccagcag gaggtcaca ccagagaagg gaggtgtgtg gtggtgagg  
1561 ggcgggggtg ggggcccag tgtggacaga atctcgaggc attcgagctc ctgatttggtg  
1621 gaagtgaag caggccatct ggtctgagat gagcttggtg agtgcgcttg gccgatcata  
1681 gagggcctg gggagccatg gaagactcta ggcagaggca ggacctcttg ggttagaagg  
1741 acggcctgga gttgggatcc tgccaccag cacttaccag tagacacccc acctagatg  
1801 tatgtctcca gatgattgag caaatgggtc ccagctcaa ggggtccggg tttgagtcca  
1861 gtcccaccac tgctgtatgg ggacaaatga cttaccctct tggaaacctc gttccactga  
1921 gagaggcccc acagaatgag gacagtcccc cagcatcctg ccagtagggt tactgagcac  
1981 ctactgtgtg ctggtgcttt gaatactccc aatttacaga tgagcaaat gagctgctca  
2041 tccagggaga agccaggact cggactcagg tctgtccagc tgccctcctg gacagttcca  
2101 gtcccaggat ggtctctggg ttctctcac aatgtcaaaa gggccagctt gactgcccg  
2161 taatcagagc ctggccgcgc cacacccac ctccctgagg ctccgagaga agggacttac  
2221 ctatagtcaa gcagcgaag aaggtagccc gtgacctcca ggcctgaagg accccaagtc  
2281 ccatgtcctc cagcacatag tagatgcttt aaagtacag gacttggtcg ggcgaggga  
2341 cgctgtaat cctagcactt tgggaggctg aggaggcgag atcacctgtg gtcaggagt  
2401 cgagaccagc ctgatcaata tgggaaacc ctgtctctac taaaatacaa aaattagcca  
2461 ggtgtgtgtg tgggtgctg tagtcccagc tacttgggag gctaagacag gagaatcgct  
2521 tgaacccggg aggtggaggt tgcatgagc caagatggtg ccattgcact ctagcctggg  
2581 tgacagagcg agactccatc tcaaaaaata ggcgagcg ggctgagga gctcagcct  
2641 gtaatccag cactttggga ggcgagcg ggcgagcat gaggtcagga gtttgagact  
2701 agcctggcca acatagtga aaccgctctc tactaaaaat acaaaaatta tctggtcatg  
2761 gtggcacgtg actatagtcc cagctactcg ggaggctgag gcgggagaat cgcttgaacc  
2821 caggaggtgg aggtggcagt gagccgagat cgtgcccctg cactccagcc tgggcaacag  
2881 agcgagactc catttcaata aataaataaa taaataaagt cagagcactt tacagatgcc  
2941 ctggggacat tggcagagga gaaggtgag gcctgggtta tgggtcttta gcatttctca  
3001 gtgggacgtg gcacagagta gatgtttcat aaatgtttag aatctgaaga cccactgtgc  
3061 cgagccgggc accaaaaacc tcaggtatgc tgtgatctca ttggatcc

1 ctctgctta aacctctgc tctgacgtc cctgccaatc gctctggtcg accccaacac  
61 actaggagga cagacacagg ctccaaactc cactaagtga ccagagctgt gatttggccc  
121 gctgagtga ctgctgtgtc agggagttag tgctccatca tcgggagaat ccaagcagga  
181 ccgccatgga ggaaggtcaa tattcagaga tcgaggagct tcccaggagg cggtgttgca  
241 ggcgtgggac tcagatcgtg ctgctggggc tggtagaccg cgctctgtg gctggtctgc  
301 tgactctgct tctcctgtgg cactgggaca ccacacagag tctaaaacag ctggaagaga  
361 ggcgtgcccga gaactctct caagtttcca agaacttga aagccaccac ggtgaccaga  
421 tggcgcagaa atcccagctc acgcagattt cacaggaaact ggaggaaact cgagctgaac  
481 agcagagatt gaaatctcag gacttggagc tgtcctggaa cctgaacggg cttcaagcag  
541 atctgagcag cttcaagtcc caggaattga acgagaggaa cgaagcttca gatttgcctg  
601 aaagactccg ggaggaggtg acaaagctaa ggatggagtt gcagggtctc agcggctttg  
661 tgtgaacac gtgccctgaa aagtggatca atttccaacg gaagtgtctc tacttcggca  
721 agggcaccaa gcagtgggtc cagcccggt atgctgtga cgacatggaa gggcagctg  
781 tcagcatcca cagcccgag gagcaggact tctgaccaa gcatgccagc cacacggct  
841 cctggattgg ccttcggaac ttggacctga agggagagtt tatctgggtg gatgggagcc  
901 atgtggacta cagcaactgg gctccagggg agcccaccag ccggagccag ggcgaggact  
961 gcgtgatgat gcggggctcc ggtcgtgga acgacgcctt ctgagacctt aagctgggag  
1021 cctgggtgtg cgaccggctg gccacatgca cgccgcccag cagcgaaggt tccgagaggt  
1081 ccatgggacc tgattcaaga ccagaccctg acggccgctt gccaccctc tctgcccctc  
1141 tccactcttg agcatggata cagccaggcc cagagcaaga cctgaagac ccccaaccac  
1201 ggctaaaaag cctctttgtg gctgaaaggt ccctgtgaca ttttctgcca cccaaacgga  
1261 ggcagctgac acatctcccg ctctctatg gccctgcct tcccaggagt acaccccaac  
1321 agcaccctct ccagatggga gtgcccccaa cagcaccctc tccagatgag agtacacccc  
1381 aacagcaccc tctccagatg cagccccatc tctcagcac cccaggacct gagtatcccc  
1441 agctcaggtg gtgagctctc ctgtccagcc tgcataata aaatggggca gtgatggcct  
1501 ccc

1 agtggtctta ctttcagaag aaagtgtctc tcttctgtct taaacctctg tctctgacgg  
61 tccctgccc aa tgcctctggt cgaccccaac acactaggag gacagacaca ggtcccaaac

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121 tccactaacc agagctgtga ttgtgcccgc tgagtggact gccttctcag ggagtgagtg
181 ctccatcatc gggagaatcc aagcaggacc gccatggagg aaggtcaata ttcagagatc
241 gaggagcttc ccaggaggcg gtgttgccag cgtgggactc agatcgtgct gctggggctg
301 gtgaccgccc ctctgtggcg tgggtgtctg actctgcttc tccgtggcca ctgggacacc
361 acacagagtc taaaacagct ggaagagagg gctgcccggg acgtctctca agtttccaag
421 aacttgaaaa gccaccacgg tgaccagatg gcgcagaaat cccagtccac gcagatttca
481 caggaactgg aggaacttcg agctgaacag cagagattga aatctcagga cttggagctg
541 tccctggaacc tgaacgggct tcaagcagat ctgagcagct tcaagtccca ggaattgaac
601 gagaggaacg aagcttcaga tttgctggaa agactccggg aggaggtgac aaagctaagg
661 atggagtgc aggtgtccag cggctttgtg tgcaacacgt gccctgaaaa gtggatcaat
721 ttccaacgga agtgctacta cttcgccaag ggaccaagc agtgggtcca cgcgccgtat
781 gcctgtgacg acatggaagg gcagctggct agcatccaca gcccggagga gcaggacttc
841 ctgaccaagc atgccagcca caccggctcc tggattggcc ttcggaactt ggacctgaag
901 ggagagttta tctgggtgga tgggagccat gtggactaca gcaactgggc tccaggggag
961 cccaccagcc ggagccaggg cgaggactgc gtgatgatgc ggggctccgg tccgtggaac
1021 gacgccttct gcgaccgtaa gctgggcgcg tgggtgtgcg accggctggc cacatgcacg
1081 ccgcccagcca gcgaaggctc cgcggagctc atgggacctg attcaagacc agacctgac
1141 ggccgcctgc ccacccctc tgcctctctc cactcttgag catggatata gccaggccca
1201 gagcaagacc ctgaagaccc ccaaccacgg cctaaaagcc tctttgtggc tgaagggtcc
1261 ctgtgacatt ttctgccacc caaacggagg cagctgacac atctcccgct cctctatggc
1321 ccctgccttc ccaggagtac accccaacag caccctctcc agatgggagt gccccaaca
1381 gcaccctctc cagatgagag tacaccccaa cagcaccctc tccagatgca gccccatctc
1441 ctacgacccc caggacctga gtatccccag ctgaggtggt gagtccctct gtccagcctg
1501 catcaataaa atggggcagc gatggcctcc

```

## (2) INFORMATION FOR SEQ ID NO:58:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 825 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

```

1 gtaagtatct tccctctgtg gctaggaaga caaggaatac attttaaat gtctcctaaa
61 ccaaggacct gaaaccagct ctatgggatt attcttgttc ctctttgttc aatgcagaga
121 catggggaaga accaccaag gtcatgaggg tctcttccag ggatccctgg acattgcctt
181 tcccagtggt gtgacaagag ttagaggtgg cctaccttgc ctctgtcctt agggaggcag
241 agtaggagag ccttcgggtt tctcatcttc ttacttgtat gttgaacttt acttaatgca
301 ggctatatcc aaaatacagt gtgaattagg ctagaataga aatgctttct attctacctt
361 cagaaaaagga aaagggtagg gtaggggaaa tcatgggaga gattaaaagg agagaggaaa
421 cccagatggg actgtttaat cccaagcaa gaaaccacta ggaaagagag ataccttccc
481 tctaactttt gtattcgggt cactgacatt gctctctgtg ctggtgggaa attgatttct
541 gtgccaggat gttctaggct gaggccaaga ggggtgctggc cctttaccba gtggaagaaa
601 aaggcaaggg tgaggctttg tagactttcc cattcggagg taatgatgcc tcttcagcc
661 ccacttcttc aaactgactc cactgtctcc catctccaca cccctccgtt tctcatttag
721 ccaaagcaca tcatccttgc agcccaccac tcagcttggc caggtgagag acatctttcc
781 ccacttcata cctcccctcc ggccagggtga tgtttgcctc ctacg

```

## (2) INFORMATION FOR SEQ ID NO:59:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32351 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

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1213

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1214

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| 17641 | tttccacaat  | catggccaga  | gcaaaatcct  | acccaacctc  | tggttgata   | atctatactc  |
| 17701 | ccatcctggg  | aagcagttaa  | agggatgctc  | tccatttcat  | agacagaaaa  | gagttctctg  |
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| 18241 | ctgcagagca  | cggtcagtga  | atccactttg  | attgccctgc  | tggcagcaag  | gaagaacaaa  |
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24961 aaagagaaag taaatcaagg ggaagtgtgt gtggccagggt taggatccta tctgctttgg  
25021 aattacctca atggtcacag ctggctgaat acttttagca ctattatgat tatgctgaa  
25081 ataaagctcc cctggccttg gacaggtaga cctaccaagt ctggaacaaa cctccctgca  
25141 tcaacaggca tttattgaag gcctattttg ctttaatttat ttctattcaa ttcaacaatt  
25201 acaaggtatt gtgctaagaa agggacacag aggtaaaatga gacaggtgca gcctctctcc  
25261 catgttcttc atggaagaag cgggacttaa ctaagaactc tggccactgg cattgttctc  
25321 ccactcttac aagagtccac atgcaagaca aagccattga taaaagttag gggggaagct  
25381 gaagacactg tctttctgct ctatgtgtgt ctttgtcctt ccacctttcc tctagggat  
25441 tcttctcttg ttaaacaaac acaaaccaaa atgaagtggg ggaagcggta actatgattt  
25501 tttttaacat ttaaaaaaaa taattattat gcttacataa taattacgta tatatttatg  
25561 gggatgtgtg gaggttttga tacaggcata caatgtgcaa tgatcaaatt aggttaactg  
25621 ggtatccacc actcaaccat ttatcatttc tttgtgttag aaacattcta gttccattct  
25681 ttaagttagt ttgaaatgta cagcaaatga tagttaacta tagttgcctt attgtgccgc  
25741 ctaacattag atctatttaa ttgtattttt gcgcccgtta actatcacct ctttatcccc  
25801 cttactctgc tacccttccc agcctctgcc aaccatcatt ctactgtgct tctccacgag  
25861 ctcagtttgc ttacttttta actcccagct ttgagttaga acatgtgaaa tttgtccttc  
25921 tgtgctggc ttattttgct taacataatg ttctccagtt tctatgact ggttttaatg  
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26041 aatattgagg aacttttaggc actttgtgct gtttctagaa atgcagactc aagactggag  
26101 ggtttgtggc ggggaatggt ttggtgaggt tacaagttaat taggaacatt ttttgcctta  
26161 cagtttgagg ctggatattc aatgtgcaga tctgactaa cctcccttag cacttctgtt  
26221 tgcaaatcaa acccctgaat tctctctatt agcaacccca ttgcctacca tatgagggcc  
26281 acactcctgg gcctggcttt caaggacttg acgattagct cctaccttag cttgggcatt  
26341 tcatcgacc atccagacct catgctcagt ccactctgca accttccacc gtgtcctca  
26401 cctgaactac cctctcctct ccaaattgtg tgaatggatt aaattctgct tccactagaa  
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26521 actcaaacac ctttcaaaaa ctgtgctcaa agttcttcca atgtcccaca atagaagaaa  
26581 tggaaattaa ataaagtgt ttgatattat ttgattttat ctcttcaact tgacgtgat  
26641 gataattatt gacacttgct taatgccttc aatacaaaaa taaattctag tttctatta  
26701 gatccttagc acagtgcctg ggggtgtcac tctaactgg caaggctcag agggagtaat  
26761 tgccctgctt gaggggaagaa ggcccgggac tttccctgaa gcctcccaat tccaaatcct  
26821 ttcttcatag ttctgggctg ctttctacta cactgagctc ttggaaagt atataaaatt  
26881 aaatttcata tttctgtgtt acagagaagt gctttaaaga atggattttt attgtcacc  
26941 tttacctgtt tgatgacctt agacaaatta cttaaccttt ctatatttgt ctgccttatt  
27001 tatttattgt tatttatttt tgagatgcag gtctctgctt gctcaggctg aagtgcgta  
27061 gtgccatcag agctcactgc agccttgacc tccccaggct caggtgatcc tcccacctca  
27121 gcctcctgag tagctgggac tacaggcgca taccatcatg cctggctact tttgtattt  
27181 tttgtagaga tggggttttg tcatgtgtcc cagggtgttc tcacgctcct gggctcaagc  
27241 aatctgccta ccttggcctc ccaaagtgcg aggtattacag gcattgagcca ccaccttg  
27301 ccatgccttc ctaatttata aaaatgagaa aaggatacta cctctctcaa attaaatgag  
27361 ataatatata tgcagccctt agcacaggtt ctacctacta ctcagttaag tactcaatga  
27421 gtacctcttc ctcttctctt cttcccttcc ttcatcatct ccttcttcat ctaattataa  
27481 taaattgtca tcatcatcac catcatcatc atcatcatcc tcatctccta tcacctacaa  
27541 tagggatttg taaacatttc ctgtataaa cagagactac cgtagacata atacttttg gctttgtggg  
27601 ccatactcta ttgtaattac ctctgtacta caagagctac cgtagacata atacttttg gctttgtggg  
27661 atgggaatgc tgtgttccaa aaaactttac aaacacaggt gggggctata ttgtgcatg  
27721 gctgcaactg gcctgcccctt gacctagagc ggtgcagggc actggcagca gctctgctt  
27781 catgacctgt aaagtggggc tttggagggt gcagtgtctg ctgtgctctg tattctctc  
27841 tcccctgacc tctgcttctg ttattgcaaa cagcatgtgt tgtaggagg ataaaaagcac  
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27961 cttctaaaaa atggaaagat tgagctgggc acaggggcac agtctgttag tcccagctac  
28021 ttgggaggct gaggtgggaa gctcaattgc tcccaccata gccaggttg gagttctggg  
28081 ctatggtgtg ctatgccaat tgagtgtccg cactaaagttc ggcatacata tggtagctc  
28141 ccaggagcaa gggatcacca ggttgcccaa ggagggtgga agggggccag gttagaaatg  
28201 gagcaggtca aaactcctgt gctgtttgaa actgaccacg caggggagaa aggggctctg

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28261 agaaagattt ggagaaactt atttcattat ggtcaaaaga caggctcagg gccagacatg
28321 gtggctcatg ccagtaatcc cagtaacttg ggaggcctag cgcttaagcc
28381 caggagtttg ataccaggtt gaacaacctt gtgagaccac tgtctttaca aaaaaattaa
28441 aaaatgttag tgggcatggt ggtgcatgtc tgtagtccca gctactcagg aggtgaaggt
28501 gggaggatta cttgagctca ggagtccaag gctgcagtga gctttgattg tgcaacatgc
28561 ctctgtactc tagcctgtgt gacaaagcaa gacctatctt ctcaaaaaaa aaaaaaaaaa
28621 aaaaaaaaag aggttcagct aactcccttg cctctcttg aaatagagca gtaagtatga
28681 gaactaactg atagaattac tttagcaata tttttattga gatcttcttg atgcttgag
28741 aaatttttaa aaagaaaaga gaaggcaagt cctgtccttg tttagttagt aatcctgggt
28801 taaaaacaaa aagcaaaaaa ccccaggaca tttaaaaaga tgggtatgaac ttcagtggaa
28861 gattaatata atacaaagcc tttacattt taaaatgtaa caaaatattc ataccataga
28921 atgtaccatt ttactcattt ttaagtgtac aattcagtg cattaagaat actcacaatg
28981 tgggttgacc atcaccatta tttccagaat tttttcatca tcccagcag aaactctgta
29041 tccattaacc aggtccaaaa cctttccatg atgggtggag acaagatgtg aaaatagtgt
29101 ctctatggaa tgtcagaaac aggggatgaa aagggcattt ggggtacagg gtgagaagag
29161 gtttgagagg caagtgaagc atgtaggctt aggatggggc agggccgcca ctagccata
29221 tggcaacttg atgtgcacta caaacaggca tctcttcctt taggcacacg cagctcgcat
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29341 gccagtcagg gagctgtgaa atcaggagtt gaggcgggtt tgccctggact gcaaagcaca
29401 tgccttcttg gttctggggc tgagttgaaa gagggccctg agatgagttc tcgagtgga
29461 tcccatgtga caggaaacag ggcgccattt gaaattttcc agcttggaa atgagcaaaa
29521 tcaaatggag atgacaatga ggcagaagcc gcttacaacg gctgtgacgg gaagatggcc
29581 ctggtttaaa accatttagc agtctgaag tttatgcata gtctctgtc tgatgattaa
29641 tctcagttct ctttatactt gcaattccag ggtactgaaa tggctaaata ttttgaatct
29701 ctggtcagaa acgacccttc ctttgaaatt cctgccaaag ggcacctttt cgtgtgtgtt
29761 tttcgtctaa aggttaatac atcttccaag cccctctgtg aatgatgtct tgtgtgtctc
29821 cagagcctct cgaaacaca aactgggctc tggggatgct gacagggggt gcgatggaga
29881 cttcacttcc tttatttttc aaacagggtc ctaattgtct cacagaaaat gtgttaagg
29941 aaatagctaa agctggccgt ctcttctca ctagggtaga catcctgaga gactggaatc
30001 tccgtttcac tgtgacatcc cagttttacca ctagggtaga catcctgaga gactggaatc
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30121 gggttgggaa cctcatctcc caaatcaggg gtgccagagc ctgggcctgt ggaacgtccc
30181 ttcagttctg cagtggggca ggagatgatc cagtccaggc caggaagatc atcaagcagc
30241 ctacagctgt gggagccgtg cccatgaaaa gggaaaatgg cctccattct gaaacctgtc
30301 tggaccagtg tgatgactgc ttttcagaag agggcccaga tgccaccaag cacaagctgt
30361 cctccttctt gttcagttac ttgtctgtgc agactaagaa gaagacgggt cgctccctca
30421 gttgcaacag tgtgccagtg agtgctcaga agccactgcc cacagaggcc tctgtgaaga
30481 atgggggctc ctccagggtc agaattcttt ccaggtttcc agaagacatg atgatgctga
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30841 atgatccaga tgggttcagc agtctggtca gtgagaaagg gccgagggtg gacaggcagc
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30961 aacaaaacat accctgtgtc acttaattgg ctgctgaaac attgattaac cagcttgagg
31021 gcttaaacat atgtactttt tttgaagcat caattatgag tcaggcactg tggctcatgg
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31201 aacaggagct cacagcccag caggctgtct gtcctccagt acatttaaatt gtttctttc
31261 taggttttga acttgtgcat tttcccctta ttttcttggg cccggtagtc aaataaaagc
31321 tatgctcaca agtggcttgc ccataattag ttcagaggcc aaacacataa ttttatttcc
31381 atttcagatg gtactttgat aggttgtgac tctgaaatgg gttatgtaaa gagtattaaa
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31501 atcacaaatg ggaagagggt cccatgtgaa ctgaactcaa cttggatttg tgcaaagggtg
31561 actaggcatt tcacagcgtg aatgggagaa tagggagaag gccagcctag acttagaaga
31621 gtcagggaatg tgaaaaatta caaaaagcgg aaagtgggtg atgtgaaacc cctctgggtt
31681 tgctaaactg tgctttttga agtaagactc ttaccctccc acagagactg ggagtcaggg
31741 cctgtgttcc aggggttcgc tggaaacaaac agttaattct ttcggcagct ttgagtttct
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31981 gctttttttt tttttttttt tttttttttt ttgagactag tgctttctct ctttcccagg
32041 ctggagtgcg gaggcacaat catgtcttac tgcagcctca acttctggg cttgagcaat
32101 cctcctgctt cagcctccca agtagctatt tatttttgag atggggctctc attctgtgag
32161 tgcagtgggt ggaacacagt tcaactgcagc ctcagcctct gaggtcagg ctgtctttcc
32221 acctcagtc cagcagtagc tgggactatg agtgcacacc actatgcctg gctaattttt
32281 ataacttttt acagagacag ggtctccttg tgttgccag gctggtctgg aactcctggg
32341 ctcagggtgat c

```

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2371 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

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(D) TOPOLCSY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

```
1 cgactaagaa gccctgtga cagctgcctt ccagcctcct ctgtctgtct gccaggagga
  61 gcaatccaag ggagatgatg gagccctgtg aataccgtga ataccgtgaa tactaccgag
 121 ctagaggagaa agagatgttg gattacatct cccagtacct gagcactgtg cgggagaggc
 181 aggtgactcc aaatgtgcag cctggatacc tgccagccca gctacctgag agtgcctccg
 241 aggaaccgga cagctgggac agcatctttg gggacattga acgagtcacg atgctctggg
 301 tggttcactg gcagagcccc cacatgcacg cctactatcc tgctcttacc tcatggccat
 361 ccttgctagg agacatgctg gccgatgcca ttaactgctt aggattcacg tgggcatcta
 421 gccagcttg cagagagctg gagatgaaca tcatggactg gctggcgagg atgctggggc
 481 tcccggagta cttcctgcac caccatccca gcagccgagg gggagggtgc ttacagagca
 541 ctgtcagcga atccacttta attgccctgc tggcagcaag aaagaacaaa atcctagcaa
 601 tgacagcgtg cgagcccgat gctaacgagt cctccctgaa cgctcgtctc gttgcctaca
 661 cctctgatca ggctcactct tcagtggaga aggctggctt gatttccctt gtgaagatca
 721 gatttctacc tgtggacgac aactctcac tccgaggaga agctctccag aaagctattg
 781 aggaagacaa gcaacagggc ttgtgctctg tggttgtctg tgcaacgcta gggactactg
 841 gactctgtgc atttgacagg ctgtcagaac tggggcccat ctgtgccagt gagggactgt
 901 ggctccacgt cgatgctgct tatgcaggca cggcctttct gtgccctgag ctccgagggt
 961 tcctggaggg catcgagtac gccgactcct tcacctttaa ccttccaag tggatgatgg
1021 tacactttga ctgtactgga ttctgggtca aggacaagta caagctgcag cagaccttta
1081 gtgtgaaccc catctacctc cgacatgcca actctgtgtg agccacggac ttcatgcatt
1141 ggagatccc cttgagccgg cgctttcgct ccattaagct gtggtttgtg attcggctct
1201 tccgggtgaa gaatcttcaa gcacatgtca gacacggcac agaaatgggt aaatactttg
1261 aatctctgtg cagaagcgac ccttccctcg aaattcctgc taagaggcac cttggtttgg
1321 tggttttccg tctgaagggt cctaattgtc tcacagaaag tgtgttaaag gaaatagcca
1381 aagctggcca gctctttctc atcccggcta ctatccaaga caagctgac atccgtttca
1441 ctgtgacgtc ccagtttacc accaaggagg acatcctgag agattggcac ctcatccaag
1501 aggtgcttaa ccttgcctg agccagcact gcacttccca gccagccct cgggccaaga
1561 acgtcatccc gccaccgcca gggaccagag ggctatccct ggagtcagtc agcgaggag
1621 gagatgaccc agcacaggcc cggagatca tcaagcagcc aggagccagt ctggcgagaa
1681 gggagggcgg ctctgatctg gaaacgatgc cggatccctt tgatgattgc ttctctgaag
1741 agggcccaaa caccaccaag cacaagctgt catcctttct gttcagttac ttgtcgttcc
1801 agaacaggag gaagacaacg cggtccctca gctgcaacag tgtgcctatg agtcccaga
1861 agtactctcc cgcagacgct tactgaaga atgggggctc cttccgggcc agaactttt
1921 ccgggttccc agaacaatg atgatgatga agaaagggtc cttcaaaaag ctgatcaagt
1981 tctacagcgt cccagcttt cctgaatgca gttctcagtg tgctcggcag ctaccgtgct
2041 gccccctgga ggcctgggtg tagagtcctc aatcagaatg caagggtgccc tgtgcttcag
2101 ggagttgggg aaccctcgaa attgcctgca gtttgtgtgc ttattatgtg tgtgtgcatc
2161 ttgaggaag caagcccatt atttgatca taacctcaca gggctctcgt gatccacaac
2221 agattgtaac tgggaagttt aagcgggcat gctccagagg ttgcaggcgc ttgtgtgata
2281 gaaggggctg agacgggtgc atgtgttaa gcttgtaatg tgaaaaacaa cttagaaata
2341 aattgtgctt atatctaaaa aaaaaaaaaa a
```

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2355 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

```
1 cttccacctc ctgctgtgcc atctgtgaga aggagccaga gcccaaggga gatgatggag
  61 cctgaggagt acagagagag agggagagag atggtggatt acatctgccg gtacctgagc
 121 actgtgcggg agagacgtgt gacgccagac gtgcagcctg gctacctgag agcccagctg
 181 cctgagagtg ctctgtgaga ccccgacagc tgggacagca tctttgggga cattgaacga
 241 atcatcatgc ctggggtggt acattggcag agccccata tgcacgccta ctaccagcc
 301 ctcacctctt ggccctccct gctaggagac atgctggctg atgccatcaa ctgcttggga
 361 ttacactggg catccagccc tgcgtgtaca gagctggaga tgaacgtcat ggactggttg
 421 gcaaaaatgc tgggacttcc agagcacttc ttgcaccacc accccagcag ccaggggcga
 481 ggcgtctctc agagcacggt cagtgaatcc actttgattg ccctgctggc agcaaggaa
 541 aacaaaatcc tggaaatgaa aacgtctgag cccgatgctg atgagtctg cctaaatgcc
 601 cgactcgtgg cctatgcctc tgaccaggct cactcctctg tggaaaaggc tggtttgatt
 661 tccttgtgta agatgaaatt tctgcctgtg gatgacaact tctactccg aggggaagct
 721 cttcagaagg ccacgagga agacaagcag cggggcttgg tgcccgtctt tgcctgtgca
 781 acactaggga ccactggggt ctgtgcattt gactgcctgt cagagctggg ccccatctgt
 841 gcccgtagg ggctgtggct ccacatcgat gctgcttatg caggcactgc cttcctgtgc
 901 ccgaggttcc ggggggttct gaaggggatt gagtatgccg actccttcac ctttaactct
 961 tccaagtgga tgatggtgca ttttgactgt actgggttct gggtaagga caagtacaag
1021 ctgcagcaga ccttcagtgt gaatcccact tacctcaggc atgccaactc agcggtggcc
1081 accgacttca tgcactggca gatccccctg agccgacggg ttctgctctg taaactctgg
1141 ttctgtgatt ggtccttcgg ggtgaagaat cttcaagcac atgtcagaca tggtagtga
1201 atggctaaat attttgaatc tctggtcaga aacgaccctt cctttgaaat tcttgccaag
1261 aggcaccttg gcctgggtgt ttttcgtcta aagggtccta attgtctcac agaaaatgtg
1321 ttaaggaaa tagctaaagc ttccctatcc cggccactat ccaggacaag ccaggagagc
1381 ttaatcatcc gtttactgtg gacatcccag ttaccacta gggatgacat cctgagagac
1441 tggaaatctc ttcgagatgc tgccactctc atcctgagtc agcactgtac ttccaaccc
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1501 agccctcggg ttgggaacct catctcccaa atcaggggtg ccagagcctg ggcctgtggā
1561 acgtcccttc agtctgtcag tggggcagga gatgatccag tccaggccag gaagatcatc
1621 aagcagcctc agcgtgtggg agccggtccc atgaaaaggg aaaatggcct ccatcttgaa
1681 accctgctgg acccagttga tgactgcttt tcagaagagg cccagatgc caccaagcac
1741 aagctgtcct ccttctgtgt cagttacttg tctgtgcaga ctaagaagaa gacggtgcgc
1801 tccctcagtc gcaacagtgt gccagtgaat gctcagaagc cactgcccac agaggctctt
1861 gtgaagaatg ggggtctctc cagggtcaga atcttttcca ggtttccaga agacatgatg
1921 atgctgaaga aaagtgcctt caaaaaactc atcaaatctt acagcgtccc cagctttcct
1981 gaatgcagct ctcaatgtgg actccagctg ccctgttgcc ctctgcaggc catggtttag
2041 acacaggggc ttcagccaga gtctgaggat atacttcagg gactctgtga accctcaca
2101 attgtatgac aactttgtgt gcttatgtgt acatgcattt ttcttggggc gagttcataa
2161 ttttaataca attctcatag gggttcatga cccacaatag gatacaaacg aagagtttaa
2221 gccagcatga tccagatggg ttcagcagtc tggtcagtga gaaagggccg agggtagaca
2281 ggcagcttct gtggttcagc ttgtgacatg atatataaca cagaaataaa ttatgcttgt
2341 ccttgaaaca aaaaa

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## (2) INFORMATION FOR SEQ ID NO:62:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2396 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

```

1 agtgcgagg actggcaaga gggaagccgg gctgctccac gcctttcacg ccttccacct
61 cctgcgtgtc catctgtgag aaggagccag agcccaaggg agatgatgga gcctgaggag
121 tacagagaga gagggagaga gatggtggat tacatctgcc agtacctgag cactgtgcgg
181 gagagacgtg tgacgccaga cgtgcagcct ggctacctgc gagcccagct gcctgagagt
241 gctcctgagg accccgacag ctgggacagc atctttgggg acattgaacg aatcatcatg
301 cctggggtgg tacattggca gagccccat atgcacgcct actaccagc cctcacctct
361 tggccctccc tgctaggaga catgctggct gatgccatca actgcttggg attcacctgg
421 gcatccagcc ctgctgttac agagctggag atgaacgtca tggactgggt ggcaaaaatg
481 ctgggacttc cagagcactt cttgcaccac caccacagca gccagggcgg aggcgtcctg
541 cagcagacgg tcagtgaatt cactttgatt gccctgctgg cagcaaggaa gaacaaaatc
601 ctggaaatga aaacgtctga gcccgatgct gatgagtctt gcctaaatgc ccgactcgtg
661 gcctatgcct ctgaccaggc tcaactcctct gtggaaaagg ctggtttgat ttcccttgtg
721 aagatgaaat ttctgcctgt ggatgacaac ttctcactcc gaggggaagc tcttcagaag
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## (2) INFORMATION FOR SEQ ID NO:63:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 40298 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

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181 gagagacgtg tgacgccaga cgtgcagcct ggctacctgc gagccagct cctgtgaggt  
241 gctcctgagg accccgacag ctgggacagc atctttgggg acattgaacg aatcatcatg  
301 cctgggggtg tacattggca gagcccccat atgcacgcct actaccagc cctcacctct  
361 tggccctccc tgctaggaga catgctggct gatgccatca actgcttggg attcacctgg  
421 gcatccagcc ctgctgttac agagctggag atgaacgtca tggactggtt ggcaaaaatg  
481 ctgggacttc cagagcactt cttgcaaccac caccagca gccagggcgg aggcgtcctg  
541 cagcagacgg tcagtgaatc cactttgatt gccctgctgg cagcaaggaa gaacaaaatc  
601 ctggaaatga aaacgtctga gccgatgct gatgaatcct gcctaaatgc ccgactcgtg  
661 gcctatgcct ctgaccaggc tcaactcctt gtggaaaagg ctggtttgat ttcccttgtg  
721 aagatgaaat ttctgcctgt ggatgacaac ttctactcc gaggggaagc tcttcagaag  
781 gccatcgagg aagacaagca ggggggcttg gtgcccgtct ttgtctgtgc aacactaggg  
841 accactgggg tctgtgcatt tgactgcctg tcagagctgg gcccactctg tgcccgtgag  
901 gggctgtggc tccacatcga tegtgttat gcaggcactg ccttccctgt ccccagttc  
961 cgggggtttc tgaaggggat tgagtatgcc gactccttca cctttaatcc ttccaagtgg  
1021 atgatgggtg attttgactg tactgggttc tgggtcaagg acaagtacaa gctgcagcag  
1081 accttcagtg tgaatcccat ctacctcagg catgccaaact caggcgtggc caccgacttc  
1141 atgcactggc agatccccct gagccgacgg tttcgtctg ttaaactctg gttcgtgatt  
1201 cggctccttcg ggtgaaagaa tcttcaagca catgtcagac atggtactga aatggctaaa  
1261 tattttgaat ctctggtcag aaacgacct tcctttgaaa ttcttgccaa gaggcacctt  
1321 ggcctgggtg ttttctgtct aaagggtcct aattgtctca cagaaaaatg gttaaaggaa  
1381 atagctaaag ctggccgtct ctctcctcacc cggccacta tccaggacaa gttaatcatc  
1441 cgtttcactg tgacatccca gtttaccact agggatgaca tctgagaga ctggaatctc  
1501 attcgagatg ctgccactct catcctgagt cagcactgta cttcccaacc cagccctcgg  
1561 gttgggaacc tcatctccca aatcaggggt gccagagcct gggcctgtgg aacgtccctt  
1621 cagctctgtca gtggggcagg agatgatcca gtccaggcca ggaagatcat caagcagcct  
1681 cagcgtgtgg gagccggtcc catgaaaagg gaaaatggcc tccatcttga aacctgtctg  
1741 gaccagttg atgactgctt ttcagaagag gccccagatg ccaccaagca caagctgtcc  
1801 tccttctctg tcagttactt gtctgtgcag actaagaaga agacggtgcg ctccctcagt  
1861 tgcaacagtg tgccagtga tgctcagaag ccactgccc cagaggcctc tgtgaagaat  
1921 gggggctcct ccagggtcag aatcttttcc aggtttccag aagacatgat gatgctgaag  
1981 aaaagtgcct tcaaaaaact catcaaattc tacagcgtcc ccagctttcc tgaatgcagc  
2041 tctcaatgtg gactccagct gccctgttgc cctctgcagg ccattggtta gacacagggc  
2101 cttcagcaga gtctgaggat atacttcagg gactctgtga acccctcaca attgtatgcc  
2161 aactttgtgt gcttatgtgt acatgcattt ttcttggggc gagtccataa ttttaataca  
2221 attctcatag gggctcatga cccacaatag gatacaaacg aagagtttaa gccagcatga  
2281 tccagatggg ttcacagtc tggtcagtga gaaagggccg agggtagaca ggcagcttct  
2341 gtggttcagc ttgtgacatg atatataaca cagaaataaa ttatgcttgt ccctga

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1327 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

1 gatccccaga gactttccag atatctgaag aagtctgat gtcactgcc cggctccttc  
61 ccaggtagag caacactcct cgtcgcaacc caactggctc cccttacctt ctacacacac  
121 acacacacac acacacacac acacacacac acacacaaat ccaagacaac actactaagg



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181 ctctcttggg agggggaagt agggataggt aagaggaaag taagggacct cctatccagc
241 ctccatggaa tcttgacttc ttttccttgt tatttcaact tcttcacccc catcttttaa
301 acttttagact ccagccacag aagcttaca ctaaaagaaa ctctaaggcc aattttaatcc
361 aagggttcat tctatgtgct ggagatgggt tacagtaggg tgaggaaacc aaattctcag
421 ttggcactgg tgtacccttg tacagtgat gtaacatctc tgtgctcag ttgtctact
481 ataaaaataga gacggtaggg gtcattgtga gcactacctg actagcatat aagaagcttt
541 cagcaagtgc agactactct taccacttc cccaagcac agttgggggt ggggacagct
601 gaagagggtg aaacatgtgc ctgagaatcc taatgaaatc ggggtaaaag agcctggaac
661 acatcctgtg accccgcctg tctgttagga agccagtctc tggaagttaa aatggaaggg
721 ctgcttggga actttgagga tatttagccc accccctcat tttacttgg ggaaactaag
781 gcccagagac ctaagggtgac tgcctaagtt agcaaggaga agtcttgggt attcatccca
841 ggttgggggg acccaattat ttctcaatcc cattgtattc tgggaatggc aatttgtcca
901 cgtcactgtg acctaggaac acgcgaatga gaaccacacag ctgagggcct ctgcgcacag
961 aacagctgtt ctcccagga aatcaacttt ttttaattga gaagctaaaa aattattcta
1021 agagaggtag cccatcctaa aaatagctgt aatgcagaag ttcattgtca accaatcatt
1081 tttgcttacg atgcaaaaat tgaaaactaa gttattaga gaggttagag aaggaggagc
1141 tctaagcaga aaaaatcctg tgccgggaaa ccttgattgt ggctttttaa tgaatgaaga
1201 ggctccctg agcttacaat ataaaaggg gacagagagg tgaaggtcta cacatcaggg
1261 gcttgctctt gcaaaacca accacaagac agacttgcaa aagaaggcat gcacagctca
1321 gcactgc

```

## (2) INFORMATION FOR SEQ ID NO:65:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1601 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

```

1 aaaccacaag acagacttgc aaaagaaggc atgcacagct cagcactgct ctgttgctg
61 gtcctcctga ctgggggtgag ggccagccca ggccagggca cccagtctga gaacagctgc
121 acccacttcc caggcaacct gcctaactatg cttcgagatc tccgagatgc cttcagcaga
181 gtgaagactt tctttcaaat gaaggatcag ctggacaact tgttgttaa ggagtcttg
241 ctggaggact ttaagggtta cctgggttgc caagccttgt ctgagatgat ccagttttac
301 ctggaggagg tgatgcccc aagctgagaac caagaccacg acatcaaggc gcattgtaac
361 tccctggggg agaacctgaa gaccctcagg ctgaggctac ggcgtgtca tgcatttctt
421 ccctgtgaaa acaagagcaa ggccgtggag caggtgaaga atgccttaa taagctccaa
481 gagaaaggca tctacaaagc catgagttag tttgacatct tcatcaacta catagaagcc
541 tacatgacaa tgaagatagc aaactgagac atcagggtgg cgactctata gactctagga
601 cataaattag aggtctccaa aatcggtatc ggggtctctg gatagctgac ccagcccctt
661 gagaaacctt attgtacctc tcttatagaa tatttattac ctctgatacc tcaaccccca
721 tttctattta ttactagagc ttctctgtga acgattttag aagaagccca atattataat
781 ttttttcaat atttattatt ttcactgtt ttaagctgt tccataggg tgacacacta
841 tggattttga gtgttttaag ataaattata agttacataa gggaggaaaa aaaatgttct
901 ttggggagcc aacagaagct tccattccaa gcctgaccac gctttctagc tgttgagctg
961 ttttccctga cctccctcta atttatcttg tctctgggct tggggcttcc taactgctac
1021 aaatactctt aggaagagaa accaggagag ccctttgatg attaattcac cttccagtgt
1081 ctccggagga ttcccctaac ctcatccccc aaccacttca ttcttgaaag ctgtggccag
1141 ctctgttatt ataacaacct aaatttggtt ctaggccggg cgcggtggct cacgcctgta
1201 atcccagcac ttggggagcg tgaggcgggt ggatcacttg aggtcagtag ttccaaacca
1261 gcctggtcaa catggtgaaa ccccgctctc actaaaaata caaaaattag ccgggcattg
1321 tggcgccgac ctgtaatccc agctacttgg gaggtgagg caagagaatt gcttgaccc
1381 aggagatgga agttgcagtg agctgatata atgcccctgt actccagcct ggggtacaga
1441 gcaagactct gtctcaaaaa aataaaaatt tggttctaat agaactcagt
1501 ttttaactaga atttattcaa ttctctggg aatgttacat tgttctctg tcttcatagc
1561 agattttaat tttgaataaa taaatgtatc ttattcacat c

```

## (2) INFORMATION FOR SEQ ID NO:66:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4181 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

```

1 agatcttgta aactgtagaa tgcaccctcc aaaatctatt tgcataagca cacacacaca
61 cacacacaca cacacccag cagttcttgc ctgcccagat tcctctgcag ctaaaagtgt
121 gaaacttact gggcgagct tcctaaaaag attattaggg tctcctgggt tgggtgcct
181 ttaaaccttt ggactttacc acctcctatc tctcctatct ccttgcaaca aaggttagga
241 gaacaagaat gcagaaaaaa cgggtcctgg atgacatctg agtgctgct ttgggttct
301 tgatgagtga gacagaaaat aaaatacaac cccctctttt aaaagccatg cttactcagg
361 ttttcttcca ttgacagcta aatacagaaa tgagagaata ttttgagca gggatggaag
421 aagagaggta ttccccttcc cacaaccttc tgatttccca gtacatcccc cactggaaaa
481 attcatttaa aatcagtata ataagcattg attagatgcc tactatgcat ctgggcttga
541 gggcaaaactg gactcaggcc ttttgccctc aagaagctca cagtgtgaga gtggcatttg
601 tgtcctcttg aaattcacag gactaaattg tgcccaggct gacattctat ccattccatg
661 gtgcctgctt tctcacttcc ctctcttcat gggctcttgc cttgtaccaa aatccaaacc

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721 caaatctcct cacatgtgag tgttggcatt catgtctcag acatgaccta tgggcttggg
781 acttttcccc gtggaccoca gtgacttttc agatgaacag gtatcttcaa aaacttgaga
841 aataggagtc ctgtttgttg ttcttgttgc tttgtcaata taaggcacag ggtctttatt
901 caaatgttca tactatctct tgacagaaat actatgagac atattgatgg agaagccgtt
961 atctccatat gctaaatgag gacttgcacc agggaaacttg cccatggttc tctccaacca
1021 cttaaattct gaaattttga atgagagtgg acagtaattt caaatcaatg gggaaagaat
1081 caaatcttca gcaaatggct tgagataatt agctacacat ttcagaacaa ataaagaagt
1141 cagatccggg cggggcacag tggctcatgc ctgtaatctc agcactctgg gagggccaag
1201 cggggcgatc ataaggtcag gagatcgaga ccacctctgt taacacagtg aaccctcttc
1261 taataaaaaa acaaaaaaaa ataaaaaaac ttagccgggc gtggtgccag gcgctgtgag
1321 tcccagctac tcgggacgct gaggcaggag aatggcttga actcgggagg cagagcttgc
1381 aggtgagctg agatcatgcc actgcactcc agcctgggca acagagcgag actctgtctc
1441 aaaaaaaaaa aagaagtcag atcctaacct caaccctatt taacagatta tagatgaaag
1501 aaagggtacaa atggctttta catacctccc ttctccctga cattttgtat gtgtgtgtgt
1561 gtgtattttac acacacatct catataagga aattgaaggg aggctgcctg catccctgag
1621 tcaactctccc tctcctctcg aatgcttacc tgtgcccaga ccacctcctt agcctcgcac
1681 cctccaggct tacagggcac tcttctatgc ccacccaag tatagctgaa ccttccaagg
1741 gccagacttg gtgctaagta ccaagtacgc aaagattaat aaaacaatgt cctgtttcag
1801 ggaagctcaa gctgattcgg cagggcatgg tgtgtacatg aatgataacc acgtagggtt
1861 gcagggtttcc tagtgaggta agcacaaggg aagatgggaa acaaaggag gaggggttca
1921 cagcctcacc cagagtccag aaccctggc ctgcctgggt cccatgctga gtccacttct
1981 ggaacaccca gctcagagag ggggttagac ctgcaggcta acacagacac agcccagaaa
2041 acccaggagc cgagggggaa ggagaaaggt gcaagaaggg gaaaccagg tctgtgtccc
2101 cttctctctg cttcctggca gcagaactca gacagaaccc ttaagccagt ctaagtctgg
2161 caggaccagt aagttctgag ttagctccat actagtttct agcaggctct ttctcacttc
2221 ctgattctta ggtttctaca ttgacactcc ctgaagagtt gggaagagac accacagtcc
2281 cctgaccttg atccataggt cacacagcag gcacccacag ggtgggcgtg ggcctctca
2341 tcctctccct ccactcactt cagcttggct gggccccaag gtgtttgcac ccttgcagt
2401 gagtgcctt ctctagtga gcaagctcag aacctgctgc cactggagtt gtcccattgc
2461 tgatgcagaa aggtgaagaa ctagcagaac actggaaatg ccctccatct ggtccatgg
2521 ctacttaatg ctccctggca ggcaggagga caggtgctat tccctgttgg gacagatgaa
2581 aaacagacac agggagatg agtgatttgc cctgactata gagtggcagg gccaaaggcag
2641 agcccaggcc tcctgcacct aggtcagtg tccctccagt tacagtctaa actggaatgc
2701 aggc aaagcc cctgtggaag gggaaggtga aggtc caatc aaaggatccc cagagacttt
2761 ccagatatct gaagaagtcc tgatgtcact gccccgggtc ttcccagggt agagcaacac
2821 tcctcgccgc aaccctaact gctcccctta ccttctacac acacacacac acacacacac
2881 acacacacac acacacacaa atccaagaca acactactaa ggcttctttg ggaaggggaa
2941 gtagggatag gtaagaggaa agtaaggag ctcctatcca gcctccatgg aatctgact
3001 tcttttctct gttatttcaa cttcttccac cccatctttt aaactttaga ctccagccac
3061 agaagcttac aactaaaaga aactctaagg ccaatttaat ccaaggtttc attctatgtg
3121 ctggagatgg gtacagtag ggtgaggaaa ccaaattctc agttggcact ggtgtacctt
3181 tgtacaggtg atgtaacatc tctgtgcctc agtttgctca ctataaaata gagacggtag
3241 ggtcatggtg gagcactacc tgactagcat ataagaagct ttcagcaagt gcagactact
3301 cttacccact tcccccaagc acagttgggg tgggggacag ctgaagaggt ggaacatgt
3361 gctcagaat cctaatagaa tcggggtaaa ggagcctgga acacatcctg tgaccccgcc
3421 tgtcctgtag gaagccagtc tctggaaagt aaaatggaag ggctgcttgg gaactttgag
3481 gatatttagc ccacccctc atttttactt ggggaaacta aggccagag acctaagggtg
3541 actgcctaag ttagcaagga gaagtcttgg gtattcatcc caggttgggg ggacccaatt
3601 atttctcaat cccattgtat tctggaatgg gcaatttgtc cagctcactg tgacctagga
3661 acacgcgaat gagaaccac agctgagggc ctctgcgcac agaacagctg ttctccccag
3721 gaaatcaact ttttttaatt gagaagctaa aaaattatc taagagaggt agccatcct
3781 aaaaatagct gtaatgcaga agttcatgtt caaccaatca tttttgcta cgatgcaaaa
3841 attgaaaact aagtttatta gagaggttag agaaggagga gctctaagga gaaaaatcc
3901 tgtgccggga aaccttgatt gtggcttttt aatgaatgaa gaggcctccc tgagcttaca
3961 atataaaagg gggacagaga ggtgaaggtc tacacatcag gggcttgctc ttgcaaaacc
4021 aaaccacaag acagacttgc aaaagaaggc atgcacagct cagcactgct ctgttgctg
4081 gtccctctga ctgggggtgag ggccagccca ggccagggca cccagtctga gaacagctgc
4141 acccaattcc caggcaacct gcctaacatg cttcgagatc t

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## (2) INFORMATION FOR SEQ ID NO:67:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1314 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

```

1 gggggggggg atttagagac ttgctcttgc actaccaaag ccacaaagca gccttgagaa
61 aaagagagct ccatcatgcc tggctcagca ctgctatgct gcctgctctt actgactggc
121 atgaggatca gcagggggcca gtacagccgg gaagacaata actgcaccca cttcccagtc
181 ggccagagcc acatgctcct agagctgcgg actgccttca gccaggtgaa gactttcttt
241 caaacaagg accagctgga caacatactg ctaaccgact ccttaatgca ggactttaag
301 ggttacttgg gttgccaaag cttatcgaa atgatccagt tttacctggg agaagtgatg
361 cccagggcag agaagcatgg cccagaaatc aaggagcatt tgaattccct gggtgagaag
421 ctgaagaccc tcaggatgcg gctgaggcgc tgtcatcgat ttctcccttg tgaataaag
481 agcaaggcag tggagcaggt gaagagtgt ttaataaag tccaagacca aggtgtctac

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541 aaggccatga atgaatttga catcttcac aactgcatag aagcatacat gatgatcaaa
601 atgaaaagct aaaacacctg cagtgtgtat tgagtcgct ggactccagg acctagacag
661 agctctctaa atctgatcca gggatcttag ctaacggaaa caactccttg gaaaacctcg
721 tttgtacctc tctccgaat atttattacc tctgatacct cagttcccat tctatttatt
781 cactgagctt ctctgtgaac tatttagaaa gaagcccaat attataattt tacagtattt
841 attattttta acctgtgttt aagctgtttc cattggggac actttatagt atttaaaggg
901 agattatatt atatgatggg aggggttctt ccttgggaag caattgaagc ttctattcta
961 aggctggcca cacttgagag ctgcagggcc ctttgcctatg gtgcctttc aattgctctc
1021 atccctgagt tcagagctcc taagagagtt gtgaagaaac tcatgggtct tgggaagaga
1081 aaccaggagg atcctttgat gatcattcct gcagcagctc agagggttcc cctactgtca
1141 tccccagcc gtttcatccc tgaaaactgt ggccagtttg ttatttataa ccacctaaaa
1201 ttagttctaa tagaactcat ttttaactag aagtaargca attcctctgg gaatggtgta
1261 ttgtttgtct gcctttgtag cagcatctaa ttttgaataa atggatctta ttcg

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## (2) INFORMATION FOR SEQ ID NO:68:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 7207 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

```

1 cagtcaggag agagggcagt gaggggtccat gctagctggg tcttgagcct cttctggggg
61 tcagtctctg atctacagca gtgtgtccac acctaaaaca tcagctcaga gaggcagttg
121 cttctgctgt tggaaacgga catcccaaaa aaaaacaaaa aacagaaatc aaaagggag
181 gagaaagtga aagggatgga ggcagcttgt ccccttcctt gtgcttgctg ctggtagaaa
241 actcagcctg gaactgaccg gagcagcagt tcttgagtca attccattcc aacttctaga
301 agattctttt cccgtcgaag agtgtcagga ggagaggcca gaccccttg atcctgactc
361 gccagccact gcatacagata agacagagata accccgagtt cctgttctac cagccctggg
421 gtggttaacc tctccaatgg ggcaggtctg gaacctctgt ccaacgaaga tctctccccc
481 tactgatgca ggaaggacag cccgggagtg taccctctac atgggtctac tttattttaa
541 gcaaacattc cctgttcaac aggacgtgta gcattgcccc ccccttgagg tcacacagaa
601 aacagggtacc aggaggacaa gtagtgtctt gccaggggta cagaatgaaa ggcaataggg
661 gactctaggc gaattgttct cccacccaaa ctgaggtagt aggagaagtc cctactgaag
721 ggaaggtcca gacataatca aaggactacc agagatctcc caggtatctg tagaagtact
781 aacatctcca tcttcaaca gctacaggtt acacgtctcc aaggtctgga cattgtaaaa
841 cagggccatg gtaaggtcta cccgacagca cagagcaagc ctcccagaag cctgagttcc
901 ttctcctaac ttctcatgct gggatctgag cttcttctgt aaacacgggg cagaggaggc
961 accagaactc tctctgacc aactgcccc aagcacacat atcctcaaag gatagcttg
1021 aatacgtgat ggaagaatta aagagagtga ggtctgaaga aatcagccc tctcgggggt
1081 caagggcatt aactgagtgc taaggtgact tccgagtcag caagaaatat cggagcttca
1141 acccaggttg agtgaggaa acaattattt ctcaatccta atatgttctg gaatagccca
1201 tttatccacg tcattatgac ctgggagtg gtgaatggaa tccacagatg agggcctctg
1261 tacatagaac agctgtctgc ctcaggaaat acaactttta gtattgagaa gctaaaaaga
1321 aaaaaaaatt aaaagagagg tagcccatat taaaaatagc tgtaatgcag aagttcattc
1381 cgaccagttc tttagcgctt acaatgcaaa aaaaagggaa aggaaaaaaa aaaagaaaga
1441 aattaaactc aaaaattgca tggtttagaa gagggaggag gagcctgaat aacaaaaacc
1501 tttgccagga aggccccact gagccttcag tataaaaggg ggaccaagaa caggaggtct
1561 acatttagag acttgctctt gcactaccaa agccacaagg cagccttgca gaaaagagag
1621 tctcatcatg cctggctcag cactgctatg ctgctgtctc ttactgactg ctagaggat
1681 cagcaggggc cagtacagcc gggaagacaa taactgcacc cacttcccag tggccagag
1741 ccacatgctc cttagagctgc ggaactgcct cagccaggtg aagactttct ttgtaagtat
1801 gagctcgctt agcctttctt cctgccatca cctgaaatat gcattctgat ggaactgcaa
1861 aaatagctct ccttctctc ccttctctc tcttctctt tcttctctc tcttctctc
1921 tcttctctt ccttctctt ccttctctt tcttctctt tcttctctt ccttctctt
1981 ctcagtgctc tcttctctt tttccagcac ctattaccct taaacttaaa tctagagagt
2041 cctagggaaa gccatgagtt aaactaaacc caggcacatc cgaaaagcta actaggaggt
2101 gaatgcattg tcttctccat gctcaagaaa tttctgttaa gtttccaata aggtccatg
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1235

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## (2) INFORMATION FOR SEQ ID NO:69:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15530 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

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1261 ttgtttgtct gcctttgtag cagcatctaa ttttgaataa atggatctta ttgc  
1 cagtcaggag agaggcagt gaggtccat gctagctggg tcttgagcct cttctgggtg  
61 tcagtctctg atctacagca gtgtgtccac acctaaaaa tcagctcaga gaggcagttg  
121 cttctgctgt tggaaacgga catcccaaaa aaaaacaaaa aacagaaatc aaaaggggag  
181 gagaaagtga aagggttggg ggcagctgtt ccccttccct gtgctgtgtc ttggtagaaa  
241 actcagcctg gaactgaccg gacgagcagt tcttgagta attccattcc aacttctaga  
301 agattctttt cccgtcgaag agtgtcagga ggagaggcca gaccccttgc atcctgatct  
361 gccagccact gcatcagata agacagagata accccaggtt cctgttctac cagccctggg  
421 gtggttaacc tctccaatgg ggcaggttgg gaacctgtg ccaacgaaga tctccccccg

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481 tactgatgca ggaaggacag cccgggagtg taccctctac atgggtctac ttttatttaa  
541 gcaaacattc cctgggtcaac aggacgtgta gcattgcccc ccccttggg tcacacagaa  
601 aacaggtacc aggaggacaa gtatgtgctt gccagggta cagaatgaaa ggcaataggg  
661 gactctaggg gaatgttctt cccacccaaa ctgaggtagt aggagaagtc cctactgaag  
721 ggaaggtcca gacataatca aaggactacc agagatctcc caggtatctg tagaagtact  
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841 cagggccatg gtaaggtcta cccgacagca cagagcaagc ctcccagaag tctgagtccc  
901 ttctcctaac ttctcatgct gggatctgag ctcttctgtg aaacacgggg cagaggaggc  
961 accagaactc tctctgacc aactgcccc cagcacacat atcctcaaag gatagtcttg  
1021 aatacgtgat ggaagaatta aagagagtga ggtctgaaga aaatcagccc tctcggggtt  
1081 tcttttgggt aactgagtgc taaggtgact tccgagtcag caagaaatat cggacgttca  
1141 acccaggttg agtggaggaa acaattatct ctcaatccta atatgttctg gaatagccca  
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1261 tacatgaac agctgtctgc ctgaggaat acaactttta gtattgagaa gctaaaaaga  
1321 aaaaaaaatt aaaagagagg tagcccatat taaaaatagc tgraatgcag aagttcattc  
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1741 ccacatgctc ctgagctgct ggactgcctt cagccaggtg aagactttct ttgtaagtat  
1801 gagctcgctt agcctttctt ctgcccata cctgaaatat gcattctgat ggaactgcaa  
1861 aaatagctct ccttctcttc ctcttcttcc tcttctctt tctctctctc tgctttctcc  
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2101 gaatgcattg tctctcccat gctcaagaac tttctgttaa gtttccaata aggtccatg  
2161 ttttgctggc taggacaaaa gtctgtggtc tctgcgtagt ctctagatct gggggacaga  
2221 ggtttggggg tttgaagcag caccagcata gagagcttgc attacaaaag tattcccctt  
2281 tcagagctcc tggaaactgt atggaggtcc aaagaaggca gagagctatg caaaacaggc  
2341 tttctataag ggactccaga aaggaagggt tgacacaggt gctcttgaaa cctgatctga  
2401 ctcatctgaa agaagaccgg gcctgggtct aacttctccc agtcagttaa attcagtcag  
2461 aagtttttaa aaacaactgg atcccaagag gaaggacttt gatttaactc cgggctctag  
2521 cactgtcaaa tctgttctt aaaactctcc tttccacagt tgccagggca tttgaattga  
2581 ttacaaattc aaaactctac aaatggaaaa gtattcaaat gacatgcaca ttgggtatct  
2641 tcccagctcc ttgcatcac gttctttatg ttcttccagc aaacaaagga ccagctggac  
2701 aacatactgc taaccgactc cttaatgcag gactttaagg taagagtcgg gtgggtgctg  
2761 ggggagcacc aagcgattag ggacgggacg ggaggtgctg cttgtgacag cagagctggg  
2821 tctgatgcct tgactttcaa aaagagaagt gagaagacct tgactcagca tatcgccagc  
2881 agtcaagggt tgtgaagagc tcattctgtg gtaaaaggag aaaatgtaac tagaaggggc  
2941 ggggatgggg ggggggtccc taggaacagg acagtcctac aaggttagca gcaacagatc  
3001 accattccag taagtcacac ccaacctctg atccctgcct ctagggttac ttgggttgcc  
3061 aagccttata gaaatgata cagttttacc tggtagaagt gatgccccag gcagagaggc  
3121 atggcccaga aatcaaggag catttgaatt ccctgggtga gaagctgaag accctcagga  
3181 tgcggtgtag gcgctgtgtg agtagcagat gcgttcttcc ccaccccaaa tcccttaga  
3241 gccacccaac aaatactgtc tctacagccc cagtcaggcc acatgcatcc agagacacac  
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3361 gctcatctgt ctctgagcga gtgtgggagt gactttgagg cactcacagc tgaagatttg  
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3541 ccaagcacag gaaaacattc atctctttat ctcatctttt ggaagcaaa ttcagtgga  
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3661 ccagtatcta tgaataatac agtcggggca tctatgtctc tgaagcgatg ccttggctgc  
3721 tctgtttttt cttacttctc tcaactgatac tgggacatca gctggagtct acttgtgcaa  
3781 cgggtctggc ctgacgattt ggcccagta gctgagactt tcgctcctct ctcagacacc  
3841 tagaaaatag tcatggtggt tgagattgga gatagacaag aagagacact aaaaacagaa  
3901 caggtgcctt ggagctctga gagacaaaac ccgagacctg agttcacacc cacacttagc  
3961 aagccatctt agtgattgca aagacataca ttgcatcttt ctaggctgtc ctctgctgtc  
4021 cccctcagtc cctaccgaaa tagataagga ccaatcacgg ctacgttctc cctgggagct  
4081 aagaagtggt cattgaagat gagcaagggt gtctccttcc tcacacaaca agatagtttc  
4141 ccccaagtac catggatgca gaattcaagc aagaattacc aatgctctct ttttctctc  
4201 tcagcatcga tttctccctt gtgaaaataa gagcaaggca gtggagcagg tgaagagtga  
4261 ttttaataag gtaagtggca aagggggcga gtgtaacaag acctctgtct actcaccaaa  
4321 gcgcagaagg agggcgggag ctattctgca cctggagtgt ggaacccag caaatgggtg  
4381 gacctcctct gccagttaga aagccaccac ctcaagttaca tttgtttct ttcctcgtc  
4441 tctggcagtt tctaaatgac tgctccactt ttgcaggctt ttggcttaga ctgaccagac  
4501 agcctatgag cacagggcac taggtgttga ggagagtgac ataggaaaca gaaagtacag  
4561 aaagtacctt gttgggaaac aggtgaacc cacaagtaca gaaagcagac atgaattaat  
4621 ttactcaggt acatcattgg gctcagcct ggatgcccc ccccaaatc agaagcagca  
4681 gaaagcagaa ttcttacttg tcccgggca ctttccacct ggcaaacaaa atgaggttct  
4741 acacttccaa ctgcctgtga acctattcaa ccctagtctc cagaagccat gtggcctaca  
4801 tcatcatctt tgtgggctag gcagagacac ctggcagggc tctaactata gtgggcatga  
4861 attccatgac agcaggtcag agctgcaggg tgaggactgc ctacacactc aaaacataaa  
4921 aaaaaaaaaa aaaaacacc aaccatttcc ctgctatctc tatcactgcc ctgcttacaa



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4981 actgctccct ctggcatctt tgcataacat tctgcataag cattatatga gcaactggcct  
5041 cttaaaaaaa attagttgaa aaggtgccac cctgaagaca gtgctttggg gactgaatgc  
5101 ttcccttgct gactcctggc agtgcttaaa gctgggagaa ggttgggtccc accacatcct  
5161 gactactaca gtatagttgt ctctcttctt tcatttccct gtccccattt cttttattgta  
5221 cataaagtaa ctgggtgatg tgcacacaca tagtgccttc tctttctttt ccttttttaa  
5281 actaaatggc cgatgttctg ttctggttgg catcagatgg agatgggtctg ggggaaagta  
5341 ctgggtttgt gaaaataccc ccttctccat tagtggcatg ctctttcagc tctttatctt  
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5461 ctttgcatac cttgttcgat tggagaattt taatgttttt catttatcat tgtataaacg  
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5581 tagggataaa ttactcttga ataaaatgat cctagatagt ttcccttcca agtcaagcgt  
5641 cttgttgttt aaataaactt cttgttttaa atgaaaaaaa aaaaaacaaa caaacaacaaa  
5701 aaagctggga gaaggtatag gagaaacagg ggaaggcacg gccctctccc aaagcagacg  
5761 gacaaatctt tgggtccttc agctcccaac acaagaaagc agagatcttt ctatgctcag  
5821 catccttccc agggcaggga gccctcagc ccaccaatgg gtactaacca gatgctctc  
5881 tccccacaca gctccaagac caaggtgtct acaaggccat gaatgaattt gacatcttca  
5941 tcaactgcat agaagcatac atgatgatca aaatgaaaag ctaaaacacc tgcagtgtgt  
6001 attgagtctg ctggactcca ggacctagac agagctctct aaatctgatc cagggatctt  
6061 agctaactga aacaactcct tggaaaaact cgtttgtacc tctctccgaa atattttaa  
6121 cctctgatac ctcagtctcc attctattta ttcactgagc ttctctgtga actatttaga  
6181 aagaagccca atattataat ttacagtat ttattatttt taacctgtgt ttaagctgtt  
6241 tccattgggg acactttata gtatttaaag ggagattata ttatatgatg ggaggggttc  
6301 ttccttggga agcaattgaa gcttctattc taaggctggc cacacttgag agctgcaggg  
6361 ccctttgcta tgggtcctt tcaattgtct tcatccctga gtccagagct cctaagagag  
6421 ttgtgaagaa actcatgggt cttgggaaga gaaaccaggg agatcctttg atgatcattc  
6481 ctgcagcagc tcagaggggt cccctactgt catccccag ccgcttcac cctgaaaact  
6541 gtggccagt tgttatttat aaccacctaa aattagttct aatagaactc atttttaact  
6601 agaagtaatg caattcctct ggaatgtgtg tattgtttgt ctgctttgt agcagactct  
6661 aattttgaat aaatggatct tattcgattt acagtgtggt gtctattgag ttctgtctga  
6721 tttaaaagaa aaatccctta aaattccaga gggcagaagc agtgaatctt agactccaca  
6781 aaaagaatgc cagcaacctc tccaggaagg ggttgagctc ggatcagatc agaggaagt  
6841 cttgcctggc tttcaaagca tcagcataaa ctactgatat cttcaagctc agtctcttaa  
6901 aatgtgtcct gaaaccttaa aaggcattct acctccaaa gctagggaag gtgattctaa  
6961 gtaaccatcg gaaggaagt ggaagcatca aagctgaaac tctgagacga aatgttggg  
7021 ttaaaaatgg aagctagggg caggaggggtg gggagatggc tcagcagtta gagtgtgtgc  
7081 cggcaccagt gagacaggag ttcatatcct tggaaatcaa ccaacacaca accaacta  
7141 ggcaagagat gcctaattgt tcagtgtgtg cttcaagctc cagaggtcct ggggtgaact  
7201 tagatcc

## (2) INFORMATION FOR SEQ ID NO:70:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3632 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

1 aaagagctgg aggcgcgcag gccggctccg ctccggcccc ggacgatgcg gcgcgcccag  
61 gatgctgccc tgccctgtag tgctgctggc ggcgctctc agcctccgtc ttggctcaga  
121 ccctcatggg acagagctgc ccagccctcc gtctgtgtgg tttgaagcag aatttttcca  
181 ccacatccct cactggacac ccattccaaa tcagtctgaa agtacctgct atgaagtggc  
241 gctcctgagg tatggaatag agtcttgaa ctccatctcc aactgtagcc agacctgtc  
301 ctatgacctt accgcagtga ccttggaact gtaccacagc aatggctacc gggccagagt  
361 ggggctgtg gacggcagcc ggcactccaa ctggaccgtc accaacaccc gcttctctgt  
421 ggatgaagt actctgacag ttggcagtgt gaacctagag atccacaatg tcttcactct  
481 cgggaagatt cagctaccca ggcccaagat ggccccgcg aatgacacat atgaaagcat  
541 cttcagtcac ttccgagagt atgagattgc cattcgaa gtgcccggaa acttcacgtt  
601 cacacacaag aaagtaaaac atgaaaactt cagcctccta acctctggag aagtgggaga  
661 gttctgtgtc caggtgaaac catctgtcgc ttcccgaagt aacaagggga tgtggtctaa  
721 agaggagtgc atctccctca ccaggcagta tttaccgtg accaacgtca tcactcttct  
781 tgcctttgtc ctgctgtctt ccggagccct cgctactgc ctggccctcc agctgtatgt  
841 gcggcgccga aagaagctac ccagtgtcct gctcttcaag aagcccagcc ccttcatctt  
901 catcagccag cgtccctccc cagagaccca agacaccatc caccgcttg atgaggaggc  
961 ctttttgaag gtgtccccag agctgaagaa cttggacctg cacggcagca cagacagtgg  
1021 ctttggcagc accaagccat ccctgcagac tgaagagccc cagtctctcc tccctgaccc  
1081 tcacccccag gctgacagaa cgctgggaaa cggggagccc cctgtgctgg gggacagctg  
1141 cagtgtggc agcagcaata gcacagacag cgggatctgc ctgcaggagc ccagcctgag  
1201 cccagcaca gggcccacct gggagcaaca ggtggggagc aacagcagg gccaggtatg  
1261 cagtggcatt gacttagttc aaaaactctga gggccgggct ggggacacac aggttggtc  
1321 ggccttgggc caccacagtc ccccgagacc tgaggtgcct ggggaagaag acccagctgc  
1381 tgtggcattc cagggttacc tgaggcagac cagatgtgct gaagagaagg caaccaagac  
1441 aggtgcctg gaggaagaat cgcccttgac agatggcctt ggcccaaat tcgggagatg  
1501 cctgtgtgat gaggcaggt tgcattccac agccctggcc aagggtatt tgaacagga  
1561 tctctagaa atgactctg ttcctcagg ggcaccaac ggacagtgga accagccac  
1621 tgaggaatgg tactcctgg ccttgagcag ctgcagtgc ctgggaatat ctgactggag  
1681 ctttggccat gacctgccc ctctaggctg tgtggcagcc ccaggtggtc tctgggagc

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1741 ctttaactca gacctggtca ccttgccctt catctctagc ctgcagtcaa gtgagtgact
1801 cgggctgaga ggctgctttt gatttttagcc atgcctgctc ctctgcctgg accaggaggga
1861 gggccctggg gcagaagtta ggcacgaggc agtctgggca cttttctgca agtccactgg
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2281 aggggaaaaa ggaggatatg atggtcacat ggggaacctc ccctcatcgg gcctctgggg
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2401 taatggattc actgagggga gacaaaggga gccgagaccc tggatggggc ttccagctca
2461 gaacccatcc ctctggtggg tacctctggt acccatctgc aaatatctcc ctctctccaa
2521 caaatggagt agcatcccc tggggcactt gctgaggcca agccactcac atcctcactt
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2701 cagggttgga ggcctgtgct tgtgtttgtc gctaattgcc agctacagac ccagaggata
2761 agccactggg cactgggctg gggctcctgc cttgttgggt ttcagctgtg tgattttgga
2821 ctaggcactt gtcagagggc ctcaatctcc catctgtgaa ataaggactc cacctttagg
2881 ggaccctcca tgtttgctgg gtattagcca agctggtcct gggagaatgc agatactgtc
2941 cgtggactac caagctggct tgtttcttat gccagaggct aacagatgcc atgggagtc
3001 atggtgtcat gccaaagacag tatcagacac agccccagaa gggggcatta tgggccctgc
3061 ctccccatag gccatttggg ctctgccttc aaacaaaggc agttcagtc acaggcatgg
3121 aagctgtgag gggacaggcc tgtgctgccc atccagagtc atctcagccc tgcctttctc
3181 tggagcattc tgaaaacaga tattctggcc cagggaatcc agccatgacc cccaccctc
3241 tgccaaagta ctcttaggtg ccagctcgtt aactgaactc cctctggagg caggcttgag
3301 ggaggattcc tcagggttcc cttgaaagct ttattttatt attttgttca tttattttatt
3361 ggagaggcag cattgcacag tgaaagaatt ctggatatct caggagcccc gaaattctag
3421 ctctgacttt gctgtttcca gtggtatgac cttggagaag tcacttatcc tcttgagacc
3481 tcagtttctc catctgcaga ataatgactg acttgtctaa ttcataggga tgtgaggttc
3541 tgctgaggaa atgggtatga atgtgcctg aacacaaagc tctgtcaata agtgatacat
3601 gttttttatt ccaataaatt gtcaagacca ca

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## (2) INFORMATION FOR SEQ ID NO:71:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1696 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

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1 gctgtagctg gtgagaggaa gtcctagagg ctatggacac tctgctgctg ggatcaccga
61 gatgagcagc agctgctcag ggctgagcag ggtcctgggt gccgtgggta cagccctggt
121 gtctgcctcc tccccctgcc cccaggcctg ggggccccca ggggtccagt atgggcagcc
181 agggaggtcc gtgaagctgt gtgtctctgg agtgactgcc ggggacccag tgtcctggtt
241 tcgggatggg gagccaaagc tgctccaggg acctgactct gggctagggc atgaactggt
301 cctggccccc gacagacagca ctgatgaggg cacctacatc tggcagaccc tggatgggtc
361 acttgggggc acagtgaccc tgcagctggg ctaccctcca gcccgccctg ttgtctcctg
421 ccaagcagcc gactatgaga acttctcttg cacttggagt ccagccaga tcagcggttt
481 acccaccgcg tacctcacct cctacaggaa gaagacagtc ctaggagctg atagccagag
541 gaggagtcca tccacagggc cctggccatg cccacaggat ccctaggggg ctgcccgtg
601 tgttgtccac ggggctgagt tctggagcca gtaccggatt aatgtgactg aggtgaaccc
661 actgggtgcc agcacagcc tgctggatgt gagcttgcag agcatcttgc gccctgacc
721 acccaggggc ctgcgggtag agtcagtacc aggttaccct cgacgcctgc gagccagctg
781 gacataccct gcctcctggc cgtgccagcc ccacttctg ctcaagttcc gtttgagta
841 ccgtccggcg cagcatccag cctggctccac ggtggagcca gctggactgg aggaggtgat
901 cacagatgct gtggctgggc tgccccatgc tgtacgagtc agtgccggg actttctaga
961 tgctggcacc tggagcacct ggagcccgga ggcctgggga actccgagca ctgggaccat
1021 accaaaggag ataccagcat ggggcccagc acacacgcag ccagaggtgg agcctcaggt
1081 ggacagccct gtcctcccaa ggccctccct ccaaccacac cctcggtcac ttgatcacag
1141 ggactctgtg gagcaggtag ctgtgctggc gtctttggga atcctttctt tcctgggact
1201 ggtggctggg gccctggcac tggggctctg gctgaggctg agacggggtg ggaaggatgg
1261 atccccaaag cctgggttct tggcctcagt gattccagtg gacaggcgtc caggagctcc
1321 aaacctgtag aggaccagc agggctctcg cagattccac ctataattct gtcttgctgg
1381 tgtggataga aaccaggcag gacagtatag ccctatggtt ggatctcagc tggaaattct
1441 gtttgagacc catttctgtg agacctgta tttcaaattt cgagctgaaa ggtgctgtga
1501 cctctgattt caccacagag ttggagttct gctcaaggaa cgtgtgtaat gtgtacatct
1561 gtgtccatgt gtgacctgt gtctgtgaag gccagggaac atgtattcct ctgcatgcat
1621 gtatgtaggt gcctgggagt gtgtgtggtc cttgctctgg ccctttccct tgcagggttg
1681 tgcagggttg aataaa

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## (2) INFORMATION FOR SEQ ID NO:72:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1682 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

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(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

```
1 ggaagatgag cagcagctgc tcaggggctga gcagggtcct ggtggccgtg gctacagccc
61 tgggtgtctgc ctccctcccc tgcctccagg cctggggccc cccaggggtc cagtatgggc
121 agccaggcag gtccgtgaag ctgtgtgtgc ctggagtgc tgcgggggac ccagtgtcct
181 ggtttcggga tggggagcca aagctgtctc agggacctga ctctgggcta gggcatgaac
241 tggctcctggc ccaggcagac agcactgatg agggcaccta catctgccag accctggatg
301 gtgcacttgg gggcacagtg accctgcagc tgggtaccc tccagcccgc cctgttgtct
361 cctgccaaagc agccgactat gagaacttct cttgcacttg gattcccagc cagatgcagc
421 gtttaccacac ccgtacctc acctcctaca ggaagaagac agtccctagga gctgatagcc
481 agaggaggag tccatccaca gggccctggc catgccaca ggtcccccta ggggctgccc
541 gctgtgttgt ccacggggct gagttcttga gccagtagcg gattaatgtg actgaggtga
601 acccactggg tgccagcaca cgcctgtgg atgtgagctt gcagagcatc ttgcgccctg
661 acccacccca gggcctgctg gtagagtcag taccaggtta ccccccagcg ctgagagcca
721 gctggacata ccctgcctcc tggccctggc agccccactt cctgctcaag ttccgtttgc
781 agtaccgtcc ggcgcagcat ccagcctggt ccacggtgga gccagctgga ctggaggagg
841 tgatcacaga tgctgtggct gggctgcccc atgctgtacg agtcagtgc cgggactttc
901 tagatgctgg cacctggagc acctggagcc cggaggcctg gggaaactcg agcactggga
961 ccataccaaa ggagatacca gcatggggcc agctacacac gcagccagag gtggagcctc
1021 aggtggacag ccctgctcct ccaaggccct ccctccaacc acaccctcgg ctacttgatc
1081 acagggactc tgtggagcag gtagctgtgc tggcgtcttt gggaaactct tctttcttgg
1141 gactgtgtggc tggggccctg gcactggggc tctggctgag gctgagacgg ggtgggaagg
1201 atggatcccc aaagcctggg ttcttggcct cagtgtatcc agtggacagg cgtccaggag
1261 ctccaaacct gtagaggacc caggaggcct tccggcagatt ccacctataa ttctgtcttg
1321 ctgggtgtga tagaaaccag gcaggacagt agatccctat ggttgatctc cagctggaag
1381 ttctgtttgg agccatttc tgtgagacc ttgtattcaa atttgagct gaaaggtgct
1441 tctacctctg atttcacccc agagtgtgag ttctgtctaa ggaacgtgtg taatgtgtac
1501 atctgtgtcc atgtgtgacc atgtgtctgt gaggcaggga acatgtatc tctgcatgca
1561 tgtatgtagg tgctgggga gtgtgtgtgg gtccttggct cttggccttt ccttgagggg
1621 gttgtgcagg tgtgaataaa gagaataagg aagttcttgg agattatact cagaaaaaaa
1681 aa
```

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 413 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

```
1 tctgtggagc aggtagctgt gctggcgtct ttgggaatcc tttctttcct gggactgggtg
61 gctggggccc tggcactggg gctctggtaa gtgactgcca ttggtccctc agcctctgat
121 cctcacacat gctctgatgc ccatagacca cattcatctc cacccttcat gactgcctgc
181 tgaacctgtc tgattcttga actacctccc catacctcca tcccctatgc cccacttgat
241 ttttaactgat tcctctcctg accctttact aataaaccct ttggcggaga ctgagataac
301 ccacattggt ggagagacag ctgcctttct atgccccagg ctgaggctga gacggggtgg
361 gaaggatgga tccccaagc ctgggttctt ggcctcagtg attccagtgg aca
```

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3791 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

```
1 gctgtagctg gtgagaggaa gtcctagagg ctatggacac tctgctgctg ggatcaccca
61 gatgagcagc agctgtcag ggctgagcag ggtcctgggt gccgtggcta cagccctggt
121 gtctgcctcc tcccctgccc cccaggcctg gggcccccca ggggtccagt atgggcagcc
181 agggaggctc gtgaagctgt gttgtcctgg agtgactgcc ggggacccag tgtcctggtt
241 tccggatggg gagccaaagc tgctccaggg acctgactct gggctagggc atgaactggt
301 cctggcccag gcagacagca ctgatgaggg cacctacatc tgccagacct tggatgggtc
361 acttgggggc acagtgacct tgcagctggg ctaccctcca gcccgccctg ttgtctcctg
421 ccaagcagcc gactatgaga acttctcttg cacttgaggt cccagccaga tcagcgggtt
481 acccaccgac tacctcacct cctacaggaa gaagacagtc ctaggagctg atagccagag
541 gaggagtcca tccacagggc cctggccatg cccacaggat cccctagggg ctgcccgtctg
601 tgttgtccac ggggctgagt tctggagcca gtaccggatt aatgtgactg aggtgaacct
661 actgggtgcc agcacagcc tctggatgt gagcttgac agcatcttgc gccctgacct
721 acccaggggc ctgagggtag agtcagtacc aggttaccct cgacgcctgc gagccagctg
781 gacataccct gcctcctggc cgtgccagcc ccacttctg ctcaagttcc gtttgagta
841 ccgtccggcg cagcatccag cctggctccac ggtggagcca gctggactgg aggaggtgat
901 cacagatgct gtggctgggc tgccccatgc tgtacagatc agtggccggg actttctaga
961 tctggcacc tggagcacct ggagcccgga ggcctgggga actccgagca ctgggacctat
1021 accaaaggag ataccagcat ggggccagct acacacgcag ccagagggtg agcctcaggt
1081 ggacagccct gctcctccaa ggccctccct ccaaccacac cctcggctac ttgatcacag
1141 ggactctgtg gagcaggtag ctgtgctggc gtctttggga atcctttctt tcttgggact
1201 ggtggctggg gccctggcac tggggctctg gctgaggctg agacgggggt ggaaggatgg
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1261 atccccaag cctgggttct tggcctcagt gattccagtg gacagggctc caggagctcg
1321 aaacctgtag aggacccagg agggcttcgg cagattccac ctataattct gtcttgctgg
1381 tgtggataga aaccaggcag gacagtagat ccctatggtt ggatctcagc tgggaagtct
1441 gtttggagcc catttctgtg agaccctgta ttcaaatctt gcagctgaaa ggtgcttgta
1501 cctctgattt caccacagag ttggagtctt gctcaaggaa cgtgtgtaat gtgtacatct
1561 gtgtccatgt gtgaccatgt gtctgtgaag gccagggaac atgtattcct ctgcatgcat
1621 gtatgtaggt gcctgggagt gtgtgtggtc cttgctctgg ccccttccct tgcagggttg
1681 tgcaggtgtg aataaa
1 ggaagatgag cagcagctgc tcagggtga gcagggtcct ggtggccgtg gctacagccc
61 tgggtgtctc ctccctcccc tgccccagg cctggggccc cccaggggtc cagtatgggc
121 agccaggcag gtccgtgaag ctgtgtgtgc ctggagtac tgccggggac ccagtgtcct
181 ggtttcggga tggggagcca aagctgtctc agggacctga ctctgggcta gggcatgaac
241 tgggtcctggc ccaggcagac agcactgatg agggcaccta catctgccag acctggatg
301 gtgcacttgg gggcacagt accctgcagc tgggctaccc tccagcccgc cctgtgtct
361 cctgccaagc agccgactat gagaactctt cttgcaactg ggtcccagc cagatcagcg
421 gtttaccac ccgctacctc acctctaca ggaagaagac agtcctagga gctgatagcc
481 agtagggag tccatccaca gggccctggc catgccaca ggatccccta ggggtgccc
541 gctgtgtgtt ccacggggct gagttctgga gccagtaccg gattaatgtg actgaggtga
601 acccactggg tgccagcaca cgctgtctgg atgtgagctt gcagagcatc ttgcgccctg
661 acccaaccca gggcctgcgg gtagagtacg taccagggtt ccccgacgc ctgcgagcca
721 gctggacata ccctgcctcc tggcctggcc agccccactt cctgtctaa ttcggttgc
781 agtaccgtcc ggcgcagcat ccagcctggt ccaggttga gccagctgga ctggaggagg
841 tgatcacaga tgcgtgtggt gggctgcccc atgctgtacg agtcagtgcc cgggactttc
901 tagatgctgg cacttgagc acctggagcc cggaggcctg gggaaactcc agcactggga
961 ccatacaaaa ggagatacca gcatggggcc agctacacac gcagccagag gtggagcctc
1021 aggtggagcag ccctgctcct ccaaggccct cctccaacc acaccctcgg ctacttgatc
1081 acagggactc tgtggagcag gtagctgtgc tggcgtcttt gggaatcctt tcttctctg
1141 gactgggtggc tggggccctg gcactggggc tctggctgag gctgagacgg ggtgggaagg
1201 atggatcccc aaagcctggg ttcttggcct cagtgtattc agtggacagg cgtccaggag
1261 ctccaaacct gtagaggacc caggagggtt tcggcagatt ccacctataa ttctgtctt
1321 ctggtgtgga tagaaaccag gcaggacagt agatccctat gggttgatct cagctggaag
1381 ttctgttttg agccccattt tgtgagacct tgtatttcaa atttgagct gaaaggtgct
1441 tctacctctg atttcacccc agagtgtgag ttctgtctaa ggaacgtgtg taatgtgtac
1501 atctgtgtcc atgtgtgacc atgtgtctgt gaggcaggga acatgtattc tctgcatgca
1561 tgtatgtagg tgcctgggga gtgtgtgtgg ttccttggct cttggccttt ccttgcaggg
1621 gttgtgcagg tgtgaataaa gagaataagg aagttcttgg agattatact cagaaaaaaa
1681 aa
1 tctgtggagc aggtagctgt gctggcgtct ttgggaatcc tttcttctct gggactgggtg
61 gctggggccc tggcactggg gctctggtaa gtgactgcca ttggtccctc agcctctgat
121 cctcacacat gctctgatgc ccatagacca cattcatctc cacccttcat gactgcctgc
181 tgaacctgtc tgattctgga actacctccc catacctcca tcccctatgc cccacttgat
241 ttttaactgat tctctctctg acctttact aataaacctt ttggcggaga ctgagataac
301 ccacattgtt ggagagacag ctgcctttct atgccccagg ctgaggctga gacggggtgg
361 gaaggatgga tcccaaaagc tggggttctt ggccctcagt attccagtgg aca

```

## (2) INFORMATION FOR SEQ ID NO:75:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 762 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

```

1 atgtggcccc ctgggtcagc ctcccagcca ccgccctcac ctgccgccc cagaggtctg
61 catccagcgg ctgcacctgt gtccctgcag tgccggctca gcatgtgtcc agcgcgcagc
121 ctctcctctg tggctaccct ggtcctcctg gaccacctca gtttggccag aaacctcccc
181 gtggccactc cagacccagg aatgttccca tgccttcacc actcccaaaa cctgctgagg
241 gccgtcagca acatgctcca gaaggccaga caaactctag aattttaccc ttgcacttct
301 gaagagattg atcatgaaga tatcacaaaa gataaaacca gcacagtgga ggcctgttta
361 ccattggaat taaccaagaa tgagagtgtc ctaaaattcca gagagacctc tttcataact
421 aatgggagtt gcctggcctc cagaaaagacc tcttttatga tggccctgtg ccttagtagt
481 atttatgaag acttgaagat gtaccagggt gagttcaaga ccatgaatgc aaagcttctg
541 atggatccta agaggcagat ctttctagat caaaacatgc tggcagttat tgatgagctg
601 atgcaggccc tgaatttcaa cagtgtgact gtgccacaaa aatcctcctt tgaagaaccg
661 gatttttata aaactaaaat caagctctgc atacttcttc atgctttcag aattcgggca
721 gtgactattg atagagtgat gagctatctg aatgcttctt aa

```

## (2) INFORMATION FOR SEQ ID NO:76:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2056 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

```

1 aagcttcttt tgcataactg gcgctggatt ttactgaga ctttacgtta cagttttttt
61 tttttaaat tcaagggtgt tttacgaaca catgaataaa atatttgtgt cattttgaac

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```
121 cttacttgct ttattttatg catgtattta tttatggggg ggcacaagga ctcactctgtg
181 gtggtgcagc cactgtaaat aaattagtga aactacttca cgtcaatttc tgttcagtac
241 actttagtga tggatcggag gaaattaata catgtttaca aaaagcccc cccccagttg
301 ttacatatgc ctcagagata ccagttgtga aaagtgcagg tgcacttaca cacatacgca
361 cacacacccc acaaatggta tcatacgaaa aaacatacct gcaatctgat ttgtccactt
421 aattgtatat cttggatata gaacttgttt cactggaagg ctaaaaggca aagtctgggg
481 aggcctagag gacacagggg atgggaggag gcgctctgag ctggatgtaa ggtctccacc
541 cacggccaga gcacaaggtc ggataaccag tgggctgccc ggcttggctg cctgggcccc
601 cccctgccga gacaaacggc tggaggaggg aagtgtgagg ctgggaagct ccgctgctct
661 ggcccggtt tcccatttcc cccttcccgc cgtgagacgg cgaggaaagt tagccccgaa
721 atctgcgccc gcctaaaacc cggcctggtc ccagccaccg cccaggaac tccccacc
781 gcaggggcgg aggtcgagag caggatgga gaagtggacc tgcgcgggtg gactccgggg
841 cgcggttga ctccggggcg cggggggact ccgaggagcg ggtggactgt ggggcgcggg
901 taccgtctcg cagcgacctc tgtcgcgggc tctggggatg gcccgcatct gtctgctgt
961 acctggtata cgtgcaggta catgttcttg ttcacgtgca gactgggagg gggatggggg
1021 ggtccacacc ggtgtacacc tttgcatacc tcttagcaac ttgaaattcc accacgagag
1081 atatctttat tccgctattc ctgtgcatct gcacggagcc cctagggcca tagatttgtg
1141 tgcaaatgaa atgaggatgt agtctgggtg cccaaggggg ggtgccttga gtgtggttg
1201 ctgtatgcct ccctgagggt atttacttt ctgtcccat ccgccccat gagcgagtac
1261 ctatgagcac aggatgtgca catatttgag tcttattagt ggtacacgca gttttatcat
1321 ctcccagggt ctgtgtctgt atgaaatgtg catgggtgtg tgtgtgcacg cgtgtgttcc
1381 cactcgggga atgtggggag aggtgcatgg agccaagatg ggtggtaaat agtatgttcc
1441 tgaaattaaa ggactaatgt ggaggaaagg gccccagatg tactaaacc tttgccttca
1501 tctcatcctc tctgacttgg gaagaaccag gattttgttt ttaagccctt gggcatacag
1561 ttgttccatc ccgacatgaa ctcagcctcc cgtctgaccg ccccttggcc ttccttcttc
1621 ctcgatctgt ggaacccagg gaatctgcct agtctgtctt ccaagcacct tggccatgat
1681 gtaaacccag agaaattagc atctccatct ccttcttat tccccacca aaagtcttt
1741 cctcttagtt cattacctgg gattttgatg tctatgttcc ctctcgtaa ttgatacaca
1801 cacagagaga gacaaacaaa aaaggaactt cttgaaattc cccagaagg ttttgagagt
1861 tgttttcaat gttgcaacaa gtcagtttct agttaagtt tccatcagaa aggagtagag
1921 tatataagtt ccagtaccag caacagcagc agaagaaaca acatctgttt cagggccatt
1981 ggaactctcg tccgtcccag agcaaggtaa gcacttccca agccctacc tccctccctt
2041 ccctgtgggc ctgacg
```

## (2) INFORMATION FOR SEQ ID NO:77:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1703 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

```
1 gaattctcag acagcagcat tagaaggggc cttagagatc aaccatttct cttattttac
61 acacacctaa aactccctac agccgtgctt catcagcttc gagcagatga gccacccaga
121 aggcagctcc agttattagg tccttagggc tgggtgtagt caggcccttt ggaagctcca
181 agtcagagat caaacacatc cccccacta cccacgccta gggtgactaa tgcctgtggg
241 aaaaacaact gaactaaaaa gtcccacagg aacctcaaac ccagcacatc caaaatggaa
301 cttctacca tctcctccaa actcagctct cttatacagt aatccctgta aagctagaac
361 aatctccatt cccattcttc agggccttcc tctcccgctc acctgaggag ctaccaagcc
421 ttggcccaca agccctctga gagtccctcc tgcccaccct gtgttctcca tactgaataa
481 ggacttggcc acaccttgtc aactcttccc tctgtcttac tctgacccc tggatcccc
541 catcatgcaa attctgccac atctcccgcc taaaacccag gaagactccc cactactctc
601 agcacagaaa gtacactcct tagtatggca tcccctgccc tcatggcatg gcccatccag
661 cctccagccc tcacaccctg caaggacacc tagaccccca cctccctcaa ccttctatga
721 ctgcgcttct gatccctgtt tcccctggct agaccctgcg tgccctcccg ctgtgaagcg
781 tctaatgcct gcttgttttt aacactcagg ttggggcccc tgccctgtcc cgggagcctt
841 tgctgactcc tggaccccgt tgctccggct gagcgtgggc tctttctcta ggtctttcct
901 cccaggactc tgtgtattca tcctatcgtt aaactggatt ctctacaaga gtaataattg
961 cagagtcagc cagctctcat cccttttcag gtttcagaaa agacctgtga acaaaacgcc
1021 ttgagtctga tttagtgtgg caatgcccc aagggtcctgt tctccctggg tgtcctgcac
1081 ctggtgcaac gtcggccttg catctagtga gccatctaaa ggaacgatga tgagtgaatg
1141 atttgcctac cccttccagt actaggctgg aggtcgtggg tagggcccat ccctacgcag
1201 gacatgcaaa gtgggaggca ctctctcttc tacgtcggca gggggcgctg cacagctgcg
1261 gggcggggta gcttagacac gggcgctccg gctaaggccg gggaccacgg gtgtgtggcg
1321 ggggtgtccc cccgctgtg gaccccgcg agtaactgcg aacatttcgc tttcattttg
1381 ggccgagctg gaggcggcgg ggccgtccc gaacggctgc ggccgggcac cccgggagtt
1441 aatccgaaag cgccgcaagc ccccggggcc ggccgcaccg cacgtgtcac cgagaagctg
1501 atgtagagag agacacagaa ggagacagaa agcaagagac cagagtccc ggaaagtccc
1561 gcgcgcctc gggacaatta taaaatgtg gccccctggg tcagcctccc agccaccgcc
1621 ctcacctgcc gcggccacag gtctgcatcc agcggctcgc cctgtgtccc tgcagtgcg
1681 gctcagcatg tgtccagcgc gca
```

## (2) INFORMATION FOR SEQ ID NO:78:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4521 base pairs
- (B) TYPE: nucleic acid

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(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

```
1 atgtggcccc ctgggtcagc ctcccagcca cgcctctac ctgccgcggc cacaggtctg
  61 catccagcgg ctgcctctgt gtccctgcag tgcgggtca gcatgtgtcc agcgcgcagc
 121 ctccctcttg tggctacctt ggtccctctg gaccacctca gtttggccag aaacctcccc
 181 gtggccactc cagaccaggg aatgttccca tgccttcacc actcccaaaa cctgctgagg
 241 gccgtcagca acatgctcca gaaggccaga caaactctag aattttaccc ttgcacttct
 301 gaagagattg atcatgaaga tatcacaata gataaaacca gcacagtggg ggcctgttta
 361 ccattggaat taaccaagaa tgagagttgc cttaaattcca gagagacctc ttccataact
 421 aatgggagtt gcctggcctc cagaaagacc tcttttatga tggccctgtg ccttagtagt
 481 atttatgaag acttgaagat gtaccagggt gagttcaaga ccatgaatgc aaagcttctg
 541 atggatccta agaggcagat ctttctagat caaaacatgc tggcagttat tgatgagctg
 601 atgcaggccc tgaatttcaa cagtgcagac gtgccacaaa aatcctccct tgaagaaccg
 661 gatttttata aaactaaat caagctctgc atacttcttc atgctttcag aattcgggca
 721 gtgactattg atagagtgat gagctatctg aatgcttcct aa

1 aagcttcttt tgcataactg gcgttgatt tttactgaga ctttacgtta cagttttttt
  61 tttttaaatt tcaagtgct tttacgaaca catgaataaa atatttgtgt cattttgaac
 121 cttacttgct ttattttatg catgtattta tttatggggg ggcacaagga ctcactgtgt
 181 gtggtgcagc cactgtaaat aaattagtga aactacttca cgtcaatttc tgttcagtag
 241 acttttagtg tggatcggag gaaattaata catgtttaca aaaagcccc ccccgagttg
 301 ttacatatgc ctacagagata ccagttgtga aaagtgcagg tgcacttaca cacatacgca
 361 cacacacccc acaaatggta tcatacgaaa aaacatacct gcaatctgat ttgtccactt
 421 aattgtatat cttggataga gaacttggtt cactggaagg ctaaaaggca aagtctgggg
 481 aggcctagag gacacagggg atgggaggag gcgtctctag ctggatgtaa ggtctccacc
 541 cacggccaga gcacaaggtc ggataaccag tgggcctgcc ggcttggtgt cctgggacct
 601 cccctgcga gacaaacggc tggaggggag aagtgtgcgg ctgggaagct ccgctgctct
 661 ggcccggtt tccatttcc ccttcccgcc gctgagacgg cgaggaaagt tagccccgaa
 721 atctgcggcc gcctaaaacc cggcctggtc ccagccaccg ccccgaggaa tccccccacc
 781 gcagggcgcg aggtcgagag cagggatgga gaagtggacc tgcgcgggtg gactccgggg
 841 cgcgggtgga ctccggggcg cggggggact ccgaggagcg ggtggaactg ggggcgcggg
 901 taccgtctcg cagcgacctc tgcggcggtc tctggggatg gcccgcatct gtctgcgtgt
 961 acctggtata cgtgcaggta catgttctgt ttcacgtgca gactgggcgg gggatggggg
1021 ggtccacacc ggtgtacacc tttgcatacc tcttagcaac ttgaaattcc accacgagag
1081 atatctttat tccgtattc ctgtgcatct gcacggagcc cctaggggca tagatttgtg
1141 tgcaaatgaa atgaggatgt agtctgggtg cccaaggggg ggtgccttga gtgtggttgt
1201 ctgtatgcct ccctgagggt atttcaactt ctgctcccat ccgcccctat gagcgagtag
1261 ctatgagcac aggatgtgca catatttgag tcttattagt ggtacacgca gttttatcat
1321 ctccccaggt ctgtgtctgt atgaaatgtg catgggtgtg tgtgtgcacg cgtgtgttcc
1381 cactcgggga atgtggggg aggtgcatgg agccaagatg ggtggttaac agtatgtttc
1441 tgaattataa ggactaatgt ggaggaaggc gcccagatg tactaaacce ttgtccttca
1501 tctcatcttc tctgacttgg gaagaaccag gattttgttt ttaagccctt gggcatacag
1561 ttgttccatc ccgacatgaa ctacgctccc cgtctgaccg ccccttgccc ttccttcttc
1621 ctgcatctgt ggaaccagg gaatctgcct agtctgtctt ccaagcacct tggccatgat
1681 gtaaacccag agaaattagc atctccatct ccttccctat tccccacca aaagtcattt
1741 cctcttagtt cattacctgg gattttgatg tctatgttcc ctctcgta ttgatacaca
1801 cacagagaga gacaaacaaa aaaggaactt cttgaaattc ccccagaagg ttttagagt
1861 tgttttcaat gttgcaacaa gtcagtttct agtttaagtt tccatcagaa aggagtagag
1921 tatataagtt ccagtaccag caacagcagc agaagaaaca acatctgttt cagggccatt
1981 ggaactctcg tctgcccag agcaaggtaa gcacttccca agccctacc tccctccct
2041 cctgtgggc ctgcag

1 gaattctcag acagcagcat tagaaggggc cttagagatc aaccatttct cttattttat
  61 acacacctaa aactccctac agccgtgctt catcagcttc gagcagatga gccaccaga
 121 aggcagctcc agttattagg tccatggggc tgggtgtagt caggcccttt ggaagctcca
 181 agtcagagat caaacacatc ctcccacta cccacgccta gggtgactaa tgcctgtggg
 241 aaaaacaact gaactaaaaa gtcccacagg aacctcaaac ccagcacatc caaatggaa
 301 cttctcacca tctctccaa actcagtcct cttatacagt aatccctgta aagctagaac
 361 aatctccatt cccattctc agggccttcc tctcccgctc acctgaggag ctaccaagcc
 421 ttggcccaca agccctctga gactccttcc tggccacctt gtgttctcca tactgaataa
 481 ggaacttgcc acacctgtg aactcttccc tctgctctac tcttgacctc tggatcccc
 541 catcatgcaa attctgccac atctcccgcc taaaaccag gaagactccc cactactctc
 601 agcacagaaa gtacactcct tagtatggca tcccctgcc tcatggcatg gcccatccag
 661 cctccagcc tcacacctg caaggacacc tagaccccca cctccctcaa ccttcatga
 721 ctgcgcttct gatccctgtt tcccctggct agaccctgcg tgcctccccg ctggaagcgg
 781 tctaattgct gcttgttttt aacactcagg ttggggcccc tgcctgtctc cgggagcctt
 841 tgctgactcc tggaccccg tgcctccgct gagcgtgggc tcttctctca ggtctttctt
 901 cccaggactc tgtgtattca tccatcggt aaactggatt ctctacaaga gtaataattg
 961 cagagtcagc cagctctcat cctttttcag gtttcagaaa agacctgtga aaaaaacgcc
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1021 ttgagtctga tttagtgtgg caatgcccca aggggtccgt tctccctggg tgtctctgac
1081 ctgggtgcaac gtcggcctgg catctagtga gccatctaaa ggaacgatga tgagtgaatg
1141 atttgccctac cccttccagt actaggctgg aggtcgtggg taggggccat ccctacgcaj
1201 gacatgcaaaa gtgggaggca ctctctctc tacgtcggca gggggcgctg cacagctgcg
1261 gggcggggta gcttagacac gggcggtccg gctaaggccg gggaccagg gtgggtggcg
1321 ggggtgtccc cccgcctgtg gacccgcgc agtaactgcg aacatttcg tttcattttg
1381 ggccgagctg gaggcggcgg ggccgtcccg gaacggctgc ggccgggac cccgggagtt
1441 aatccgaaag cggcgcaagc ccccggggcc ggccgcaccg cacgtgtcac cgagaagctg
1501 atgtagagag agacacagaa ggagacagaa agcaagagac cagagtcccc ggaaagtcc
1561 gccgcgcctc gggacaatta taaaaatgtg gccccctggg tcagcctccc agccaccgcc
1621 ctcacctgcc gcggccacag gtctgcatcc agcggctcgc cctgtgtccc tgcagtgccg
1681 gctcagcatg tgtccagcgc gca

```

## (2) INFORMATION FOR SEQ ID NO:79:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1742 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

```

1 caagcccgaga gccctgccat ttctgtgggc tcaggtccct actgtcagc cccttccctc
61 ctccggcaagg ccacaatgaa ccggggagtc ccttttaggc acttgcttct ggtgctgcaa
121 ctggcgctcc tcccagcagc cactcaggga aagaaagtgg tgctgggcaa aaaaggggat
181 acagtggaaac tgacctgtac agcttcccag aagaagagca tacaattcca ctggaaaaac
241 tccaaccaga taaagattct gggaaatcag ggctccttct taactaaagg tccatccaag
301 ctgaatgatc gcgctgactc aagaagaagc ctttgggacc aaggaaactt cccctgatc
361 atcaagaatc ttaagataga agactcagat acttacatct gtgaagtggg ggaccagaag
421 gaggaggtgc aattgctagt gtccgattg actgccaact ctgacacca cctgcttcag
481 gggcagagcc tgaccctgac cttggagagc cccctgggta gtgacccctc agtgcaatgt
541 aggagtccaa ggggtaaaaa catacagggg gggaagacc tctccgtgtc tcagctggag
601 ctccaggata gtggcacctg gacatgcact gtcttgcaag accagaagaa ggtggagttc
661 aaaatagaca tcgtggtgct agctttccag aaggcctcca gcatagtcta taagaaagag
721 ggggaacagg tggagtctc cttcccactc gcctttacag ttgaaaagct gacgggcagt
781 ggcgagctgt ggtggcaggc ggagagggtc tctcctcca agtcttggat cacctttgac
841 ctgaagaaca aggaagtgtc tgtaaaacgg gttaccagg accctaagct ccagatgggc
901 aagaagctcc cgctccacct caccctgccc caggccttgc ctgagtatgc tggctctgga
961 aacctcacc tggcccttga agcgaaaaa ggaaagtgtc atcaggaagt gaacctgtg
1021 gtgatgagag ccactcagct ccagaaaaat ttgacctgtg aggtgtgggg acccacctcc
1081 cctaagctga tgctgagctt gaaactggag aacaaggagg caaaggtctc gaagcggag
1141 aaggcggtgt ggtgtgctga cctgagcgc gggatgtggc agtgtctgct gagtgtctg
1201 ggacaggtcc tgctggaatc caacatcaag gttctgccc catgggtccac cccggtgcag
1261 ccaatggccc tgattgtgct gggggcgctc gccgcctcc tgcttttcat tgggctaggc
1321 atcttcttct gtgtcaggtg ccggcaccga aggcgccaag cagagcggat gtctcagatc
1381 aagagactcc tcagtgaaga gaagacctgc cagtgcctc accggtttca gaagacatgt
1441 agccccattt gaggcacgag gccaggcaga tcccacttgc agcctcccca ggtgtctgcc
1501 ccgcgtttcc tgcctgcgga ccagatgaat gtacgagatc ccacgctctg gcctcctgtt
1561 cgctctccct acaatttgc attgtttctc ctgggttagg ccccggttc actggttgag
1621 tgtgtctctc tagtttccag aggttaatc acaccgtcct ccacgccatt tcttttccct
1681 tcaagcctag cccttctctc attatttctc tctgacctc tccccactgc tcatttggat
1741 cc

```

## (2) INFORMATION FOR SEQ ID NO:80:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 237 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

```

1 ctgccaactc tgacaccac ctgcttcagg ggcagagcct gaccctgacc ttggagagcc
61 cccctggtag tagccctca gtgcaatgta ggagtccaag gggtaaaaac atacaggggg
121 ggaagacct ctccgtgtct cagctggagc tccaggatag tggcacctgg acatgcactg
181 ttttgagaa ccagaagaag gtggagttca aaatagacat cgtggtgcta gctttcc

```

## (2) INFORMATION FOR SEQ ID NO:81:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4040 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

```

1 tgcagagaac agagaaagga catctgcgag gaaagtcccc tgatggtgt caacaaagtg
61 ccacgtctct atggtgtgt acgtgagca cacgatttta tgcgcctat catatcttgg
121 tgcataaacg cacctacct cggtaaccc ttgctccgtc ttatgagaca ggctttatta
181 tccgcatttt atatgagggg aatctgacgg tggagagaga attatcttgc tcaaggcgac

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241 acagcagagc ccacaggtgg cagaatccca cccgagcccg cttcgaccgg cggggtggaa  
301 accacggggc cccgcccggc tgcgttcca gagctgaact gagaagcgag tcctctccgc  
361 cctgcccga ccgcccagcc ccgaccccg ccccgcccg atcctcactc gccgcccagct  
421 ccccgccccc accccggagt tgggtggcga gagcggggag gcgaggcgag gagggcgggc  
481 gctggcaccg ggaacgccc agcgccggca gagagcgcg agagcgcgac acgtgcccgc  
541 caagcaccg gggccacccg gtcccgcag gcccgggacc gcgcccgtg gcaggcgaca  
601 cgtggaagaa tacggagtgc tataccagag ttgattgtg atggcacata cttttagagg  
661 atgctcattg gcatattatg ttataatcac gtggctgtg attaaagcaa aaatagatgc  
721 gtgcaagaga ggcatgtga ctgtgaagcc ttcccatgta attttactgt gatccactgt  
781 caatattaca tgctctttga agcccagaca aggctgctt cactattcca gacgtaacaa  
841 gttaatcctg tacaagtttg acagaagaat caattttcac catggccact ccctcaattc  
901 tcaagtcaca ggtcttcccc ttggtacaac cttgtttgtc tgcaaaactgg cctgtatcaa  
961 tactgatgaa attcaaatat gtggagcaga gatcttcgtt ggtgttgcct cagaacagcc  
1021 tcaaaattta tcctgcatac agaagggaga acaggggact gtggcctgca cctgggaaag  
1081 aggcagagac acccacttat acactgagta tactctacag ctaagtggac caaaaaattt  
1141 aacctggcag aagcaatgta aagacattta ttgtgactat ttggactttg gaatcaacct  
1201 caccctgaa tcacctgaat ccaatttcac agccaagggt actgctgtca atagtcttgg  
1261 aagctcctct tcacttccat ccacattcac attcttggac atagtggagc ctcttctctc  
1321 gtgggacatt agaatacaat ttcaaaaggc ttccgtgagc agatgtacc tttattgag  
1381 agatgaggga ctgggtactgc ttaatcgact cagatatcg cccagtaaca gcaggctctg  
1441 gaatatggtt aatgttacaa aggccaaagg aagacatgat ttgctggatc tgaaaccatt  
1501 tacagaatat gaatttcaga tttcctctaa gctacatctt tataagggaa gttggagtga  
1561 ttggagtga tcattgagag cacaaacacc agaagaagag cctactggga tgttagatgt  
1621 ctgggtacatg aaacggcaca ttgactacag tagacaacag atttctcttt tctggaagaa  
1681 tctgagtgtc tcagaggcaa gaggaanaat tctccactat caggtgacct tgcaggagct  
1741 gacaggaggg aaagccatga cacagaacat cacaggacac acctcctgga ccacagtcat  
1801 tcctagaacc ggaaattggg ctgtggctgt gtctgcagca aattcaaaag gcagttctct  
1861 gccactcgt attaacataa tgaacctgtg tgaggcagg ttgctggctc ctgcagggt  
1921 ctctgcaaac tcagagggca tggacaacat tctggtgact tggcagcctc ccaggaaaga  
1981 tccctctgct gtccaggagt acgtgtgga atggagagag ctccatccag ggggtgacac  
2041 acaggtccct ctaaactggc tacggagtgc accctacaat gtgtctgtc tgatttcaga  
2101 gaacataaaa tcctacatct gttatgaaat ccgtgtgtat gcactctac ggggtcagg  
2161 aggatgcagc tccatcctgg gtaactctaa gcacaaagca ccactgagtg gccccacat  
2221 taatgccatc acagaggaaa aggggagcat ttaatttca tggaaacagca ttcagttcca  
2281 ggagcaaatg ggctgcctcc tccattatag gatatactgg aaggaacggg actccaactc  
2341 ccagcctcag ctctgtgaaa ttccctacag agtctccaa aattcacatc caataacag  
2401 cctgcagccc cgagtgcacat atgtcctgtg gatgacagct ctgacagctg ctggtgaaag  
2461 ttcccacgga aatgagaggg aattttgtct gcaaggtaaa gccaattgga tggcgtttgt  
2521 ggcaccaagc atttgcattg ctatcatcat ggtgggcatt ttctcaacgc attacttcca  
2581 gcaaaagggtg tttgttctcc tagagccctc cagacctcag tgggtgtaga gagaaattcc  
2641 agatccagca aatagcactt gcgttaagaa atatccatt gcagagtaga agacagagct  
2701 gcccttggac aggtcctctg tagactggcc cacgcctgaa gatcctgaac cgctggtcat  
2761 cagtgaagtc cttcatcaag tgacccagat ttccagacat ccccccctgt ccaactggcc  
2821 acaaaaggaa aaaggaatcc aaggtcatca ggctctgag aaagacatga tgcacagtgc  
2881 ctcaagccca ccacctccaa gagctctcca agctgagagc agacaactgg tggatctgta  
2941 caaggtgctg gagagcaggg gctccgacct aaagccagaa aaccagccct gtcctggac  
3001 ggtgtcccca gcaggtgacc ttcccaccca tgatggctac ttacctcca acatagatga  
3061 cctcccctca catgaggcac ctctcgtgta ctctctggaa gaactggagc ctgagcacat  
3121 ctccccttct gtttccctc caagtctct tcacctcct accctcctc gtggtgataa  
3181 gctgactctg gatcagttaa agatgagggtg tgactccctc atgctctgag tggtagggt  
3241 tcaagcctta aagtcagtgt gccctcaacc agcacagcct gccccaattc cccagcccc  
3301 tgctccagca gctgtcatct ctgggtgcca ccacgggtct ggctgcagct agaggacagg  
3361 caagccagct ctgggggagt cttaggaaat gggagtttgt cttactcag atgcctcatc  
3421 ttgcttctcc cagggcctta aaattacatc cttactgtg ttgacataga gactccaact  
3481 tgaattccta gtaactttct tggatgtctg gccagaaagg gaaatgagga ggagagtaga  
3541 aaccacagct cttagtagta atggcataca gtctagagga ccattcatgc aatgactatt  
3601 tctaaagcac ctgctacaca gcaggtgtga cacagcagat cagtactgtt caacagaact  
3661 tctgagatg atggaaatgt tctacctctg cactcactgt ccagtacatt agacactagg  
3721 cacattggct gttaatcact tggaaatgtg ttagcttgac tgaggaaatta aattttgatt  
3781 gtaaatthaa atcgccacac atggctagt gctactgtat tggagtgcac agctctagat  
3841 ggctcctaga ttattgagag cctccaaaac aaatcaacct agttctatag atgaagacat  
3901 aaaagacact ggtaaacacc aatgtaaaag ggccccaaag gtggtcatga ctggtctcat  
3961 ttgcagaagt ctaagaatgt accttttctt ggccgggctg ggtagctcat gcctgtaate  
4021 ccagcacttt gggaggctga

## (2) INFORMATION FOR SEQ ID NO:82:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6019 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

1 caagcccaga gccctgccat ttctgtgggc tcaggtccct actgctcagc ccttctctcc  
61 ctccggcaagg ccacaatgaa ccggggagtc ctttttaggc acttgcttct ggtgctgcaa  
121 ctggcgctcc tcccagcagc cactcaggga aagaaagtgg tgctgggcaa aaaaggggat

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181 acagtggaaac tgacctgtac agcttcccag aagaagagca tacaattcca ctggaaaaac  
241 tccaaccaga taaagattct gggaaatcag ggctccttct taactaaagg tccatccaag  
301 ctcaatgata gcgctgactc aagaagaagc ctttgggacc aaggaaactt cccctgatc  
361 atcaagaatc ttaagataga agactcagat acttacatct gtgaagtggg ggaccagaag  
421 gaggaggtgc aattgctagt gttcggattg actgccaaact ctgacaccca cctgcttcag  
481 gggcagagcc tgacctgtac cttggagagc ccccttggtg tagccctc agtgcaatgt  
541 aggagtccaa ggggtaaaaa catacagggg gggaagaccc tctccgtgtc tcagctggag  
601 ctccaggata gtggcacctg gacatgcact gtcttgacga accagaagaa ggtggagttc  
661 aaaatagaca tcgtggtgct agctttccag aaggcctcca gcatagtcta taagaaagag  
721 ggggaacagg tggagttctc cttcccactc gcctttacag ttgaaaagct gacgggcagt  
781 ggcgagctgt ggtggcaggc ggagagggct tcctcctcca agtcttggt cacccttgac  
841 ctgaagaaca aggaagtgtc tgtaaacggg gttaccagg accctaagct ccagatgggc  
901 aagaagctcc cgctccacct caccctgccc caggccttgc ctacagtatgc tggctctgga  
961 aacctcacc tggcccttga agcgaanaa ggaagttgc atcaggaagt gaacctggtg  
1021 gtgatgagag ccactcagct ccagaaaaat ttgacctgtg agtggtgggg acccacctcc  
1081 cctaagctga tgctgagctg gaaactggag aacaaggagg caaaggtctc gaagcgggag  
1141 aaggcgggtg ggggtgctgaa ccctgaggcg gggatgtggc agtgtctgct gactgactcg  
1201 ggacaggtcc tgctggaatc caacatcaag gttctgcccc catggtccac cccggtgacg  
1261 ccaatggccc tgattgtgct gggggggcgc gccggcctcc tgcttttcat tgggctaggg  
1321 atcttcttct gtgtcaggtg ccggcaccga aggcgccaag cagagcggtat gtctcagatc  
1381 aagagactcc tcagtggaga gaagacctgc cagtgcctc accggtttca gaagacatgt  
1441 agccccattt gaggcacgag gccaggcaga tcccacttgc agcctcccca ggtgtctgcc  
1501 ccgctgttcc tgctgaggga ccagatgaat gtagcagatc ccacgctctg gcctcctggt  
1561 cgtctctcct acaatttgcc attgtttctc ctgggttagg ccccggtcct actggttagg  
1621 tgttgcctc tagtttccag aggtttaatc acaccgtcct ccacgccatt tcttttctc  
1681 tcaagcctag cccttctctc attatttctc tctgacctc tcccactgc tcatttggat  
1741 cc

1 ctgccaaactc tgacacccac ctgcttcagg ggcagagcct gaccctgacc ttggagagcc  
61 cccctggtag tagccctca gtgcaatgta ggagtccaag gggtaaaaa atacaggggg  
121 ggaagaccct ctccgtgtct cagctggagc tccaggatag tggcacctgg acatgcactg  
181 ttttgagaa ccagaagaag gtggagttca aaatagacat cgtggtgcta gctttcc

1 tgcagagaac agagaaagga catctgcgag gaaagttccc tgatggctgt caacaagtg  
61 ccacgtctct atggctgtgt acgctgagca cagatttta tgcgcctat catatcttgg  
121 tgcataaacg cacctcacct cggtaacccc ttgctccgtc ttatgagaca ggctttatta  
181 tccgcatttt atatgagggg aatctgacgg tggagagaga attatcttgc tcaaggcgac  
241 acagcagagc ccacaggtgg cagaatccca cccgagcccg cttcgacccg cggggtggaa  
301 accacggggc cccgcccggc tgcgcttcca gagctgaact gagaagcgag tcctctccg  
361 cctgcgcca ccgcccagcc ccgaccccg atcctcactc gccgccagct gccgccagct  
421 ccccgggccc accccggagt tgggtggcga gaggcgggag gcggaggcgg gaggcggggc  
481 gctggcaccg ggaacgccc agcgcgggca gagagcggc agagcggcag acgtgcggcc  
541 cagagcaccg gggccacccc gtcccgcag gccggggacc gcgcccgtg gcaggcgaca  
601 cgtggaagaa tacggagttc tataccagag ttgattgttg attggacata cttttagag  
661 atgtctattg gcatttatgt ttataatcac gtggctgttg attaaagcaa aaatagatgc  
721 gtgcaagaga ggcgatgtga ctgtgaagcc tcccattgta attttacttg gatccactgt  
781 caatattaca tgctctttga agcccagaca aggtgtctt cactattcca gacgtaacaa  
841 gttaatcctg tacaagttt acagaagaat caattttcac catggccact cctcaattc  
901 tcaagtcaca ggtcttcccc ttggtacaac cttgtttgtc tgcaaaactg cctgtatcaa  
961 tagtgatgaa attcaaatat gtggagcaga gatcttcgtt ggtgttgctc cagaacagcc  
1021 tcaaaattta tcctgcatac agaaggggaga acaggggact gtggcctgca cctgggaaag  
1081 aggcagagac acccacttat aactgagta tactctacag ctaagtggac caaaaaattt  
1141 aacctggcag aagcaatgta aagacattta ttgtgactat ttggactttg gaatcaacct  
1201 caccctgaa tcacctgaat ccaatttcac agccaaggtt actgctgtca atagtcttg  
1261 aagctcctct tcaattccat ccacattcac attcttgagc atagtgaagg ctcttctcc  
1321 gtgggacatt agaatacaat ttcaaaaggc ttccgtgagc agatgtacc tttattggag  
1381 agatgagggg ctggtactgc ttaatcgact cagatatcgg cccagtaaca cagggtctgt  
1441 gaatatggtt aatgttaca aggccaaagg aagacatgat ttgctggatc tgaaccatt  
1501 tacagaatat gaatttcaga ttctcttaa gctacatctt tataagggaa gttggagtga  
1561 ttggagtga tcatgagag caaaaacacc agaagaagag cctactggga tgttagatgt  
1621 ctggtacatg aaacggcaca ttgactacag tagacaacag atttctctt tctggaagaa  
1681 tctgagtgct tcagaggcaa gaggaaaaat tctccactat caggtagcct tgcaaggagt  
1741 gacaggaggg aaagccatga cacagaacat cacaggacac acctcctgga ccacagtc  
1801 tctagaacc ggaaattggg ctgtggctgt gtctgcagca aattcaaaag gcagttctct  
1861 gccactcgt attaacataa tgaacctgtg tgaggcaggg ttgctggctc ctcggcagg  
1921 ctctgcaaac tcagagggca tggaacaacat tctggtgact tggcagctc ccaggaaaga  
1981 tccctctgct gttcaggagt acgtggtgga atggagagag ctccatccag ggggtgacac  
2041 acaggtccct ctaaactggc tacggagtcg accctacaat gtgtctgctc tgatttcaga  
2101 gaacataaaa tcctacatct gttatgaaat ccgtgtgtat gcactctcag gggatcaagg  
2161 aggatgcagc tccatcctgg gtaactctaa gcacaaagca ccactgagt gcccacat  
2221 taatgccatc acagaggaaa aggggagcat tttaatttca tggaaacagca ttccagtcca  
2281 ggagcaaatg ggctgcctcc tccattatag gatatactgg aaggaaacgg actccaactc  
2341 ccagcctcag ctctgtgaaa ttccctacag agtctcccaa aattcacatc caataaacag  
2401 cctgcagccc cgagtgcac atgtcctgtg gatgacagct ctgacagctg ctggtgaaag  
2461 ttccccagga aatgagagg aattttgtct gcaaggtaaa gccaaattga tggcgtttgt  
2521 ggcaccaagc atttgacat ctatcatcat ggtgggcatt ttctcaacgc attacttcca  
2581 gcaaaaggtg tttgttctcc tagcagccct cagacctcag tgggtgtagc gagaaattcc

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2641 agatccagca aatagcactt gcgctaagaa atatcccatt gcagaggaga agacacagct  
2701 gcccttgagc aggcctcctga tagactggcc cagcctgaa gatcctgaac cgctggtcat  
2761 cagtgaagtc cttcatcaag tgacccagc tttcagacat ccccccctgct ccaactggcc  
2821 acaaaggga aaaggaatcc aaggtcatca ggctctgag aaagacatga tgcacagtgc  
2881 ctcaagccca ccacctccaa gagctctcca agctgagagc agacaactgg tggatctgta  
2941 caaggtgctg gagagcagg gctccgaccc aaagccagaa aaccagcct gtccttgagc  
3001 ggtgctccca gcaggtgacc tcccaccca tgatggctac ttacctcca acatagatga  
3061 cctccccca catgaggcac ctctcgtga ctctctggaa gaactggagc ctccagacat  
3121 ctccctttct gttttccctt caagttctct tcacccactc acctctctct gtggtgataa  
3181 gctgactctg gatcagttaa agatgagggt tgactccctc atgctctgag tggtagggt  
3241 tcaagcctta aagtcagtgt gccctcaacc agcacagcct gcccgaattc cccagcccc  
3301 tgctccagca gctgtcatct ctgggtgcca ccacgggtct ggctgcagct agaggacagg  
3361 caagccagct ctgggggagt cttagggaact gggagtgtgt cttactcag atgctcctc  
3421 ttgcttttcc cagggcctta aaattacatc cttactgtg tggacctaga gactccaact  
3481 tgaattccta gtaactttct tggtatgctg gccagaaagg gaaatgagga ggagagtga  
3541 aaccacagct cttagtagta atggcataca gtctagagga ccattcatgc aatgactatt  
3601 tctaaagcac ctgctacaca gcaggctgta cacagcagat cagtactgtt caacagaact  
3661 tcctgagatg atggaaatgt tctacctctg cactcactgt ccagtacatt agacactagg  
3721 ccaattggct gtaattcact tggaaatgtt ttagcttgac tgaggaattc aattttgatt  
3781 gtaaatttta atcgccacac atggctagtgt gctactgtat tggagtgcac agctctagat  
3841 ggctcctaga ttattgagag cctccaaac aaatcaacct agttctatag atgaagacat  
3901 aaaagacact ggtaaacacc aatgtaaaag ggccccaag gtggtcatga ctggtctcat  
3961 ttgcagaagt ctaagaatgt accttttctt gccggggcgt ggtagctcat gctgttaac  
4021 ccagcacttt gggaggctga

## (2) INFORMATION FOR SEQ ID NO:83:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5670 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

1 ggatccccgc tgacaatcta gaaacaagca acagaccctc tgatgtagcc atctgtgccg  
61 cgcctctccg caccgcccgc cagccttggt tccctggaga ccacctcca gggcaggggc  
121 tgccgctcgg ccggggcccgc ggggtccctc ggctgacat ggccggtgct ggagcggcac  
181 gtgcgcgctt cggccctcgg ccgctcggcg cccctcggcg gtgcgcacgg gcgctcgggg  
241 agccgctggc ccgggtgtcc agccggccct tgccctgcct ggccgctcga ccgccacctt  
301 tgccgcccc cccgagcctt ccgagcttc cagactggcc ggtctgcgcg cccacctctg  
361 cctcccgagc cggccaccgc cggaggccgc ggaggagggc ccggccgcgc agatcccgt  
421 tatcgggccc catctccgtt tacataaggc caccacctta tctccgctgg ccctcggcg  
481 cgcaaccgcc gcgccagcgc cttctccac gcgcgggggc gcccttccc accgctccc  
541 gcagggtctt tgggtggccat gggggataag gggcggtgac tcaccggggc ggggtccgg  
601 gagttgcaca gaccaaggtg gttcccccgt cttccccc cccagggagc cctgtgggag  
661 atgcccgtgg cctctacta cagattagga aacaggcccg tagaggggtc gcgcgccaa  
721 atgacggcac tccaggcact gggggccctc gagggaaagg gcagactctt gggagtcaga  
781 gccagcagct gggctgggaa gcttcgagtg tggacagaga ggggtgggaa gacttccct  
841 gtgggaagag aggggtggga agcctgggat gcctctgagc gggaaatccag catgccttgt  
901 gagggagggtt acaagcacac cctgtgaggg aggttgagcc ccacagagga caggacggag  
961 ggagcctgag caggcagaga gggggccttg ggaggcgctg gttcggggg gaagtgggt  
1021 ggggagaaat cttgacatca acaccacaac ggcaaatgcc gtggcctctg ctgtgggggt  
1081 ttctggagga cttctaggaa aacgagggaa gagcaggaaa aggcgacatg gctgtagggc  
1141 caagcccagg agccgcccct cacagcactc attctgcaga agggaaattt gagggcccca  
1201 gagggcaggg gttgatcttg cagagactgg tgagcaagg ggatcaccac aagccccagt  
1261 ggcactagga acacttacaa tctctgacct ggactaaggc tgccagcctg gccagttaa  
1321 gagtttccca gaaggatggc ccatacactt taaattaaag gggccagaca cgtgcacact  
1381 acttccagcc actctggaag ctgagggtgg gggatcgctt gactctggga gttggaggcc  
1441 agcctaggga ggcaacatag tgagacccca tctccaaaaa aacaaaaaaa aacaaaaaaa  
1501 aaaaaacaca aaaaagctcc cagaaagacc tctgaatctt tctgattctc tcagtggaga  
1561 cctggaaatc tgaactttga caatccctct cacagtgggg ccaaggagga attaggcaag  
1621 ccaaaagaag tgaactttac tcttctattg cctgtttgaa tttgtatcc aagcaagtgt  
1681 tacttaagta atttaagaga ctggttcatt gaaaaataaa aactcccaaa attcccatag  
1741 ctggttagact gtggtcacag ccacagtga ctaagactat ctgctcagca cttctggtga  
1801 cccaaaaggg tctgaggaca ggagctcaga gttgggtcag gttgccaggt actcaggggt  
1861 gtcacaggca aaactgctgg aactcagggc agcattgcaa atgccacgcc gctctcaggg  
1921 ccccttgctt gccgctggaa ttaaacccac ccagatcttg gaaactctgc cctggacctt  
1981 tctcaataag tccatgagaa atcaaaactt ttcctttatg cgacactgga ttttccacaa  
2041 agtaaaatca agatagtagt agatgtggtt tctagatagt gcctgaaaaa cgagagacca  
2101 tgggtgcagg cgtcaccact tgggcctata aaagctgcca caagacgcca aggccaaag  
2161 ccaccagacc tatgcatccg ctctcctatc ctctcctgtt ggcactgggc ctcatggcgc  
2221 tttgttgtag cacggtcatt gctctcactt gccttggcgg ctttgctctc ccaggccctg  
2281 tgctccctc tacagccctc agggagctca ttgaggagct ggtcaacatc acccagaacc  
2341 agaaggtgag tgcgggctag ccagggtcct agctatgagg gctccagggg ggtgtattcc  
2401 caagatgagg tcatgagcag gctgggcttg gtcctaagat gcctgtaggt caggaaaaat  
2461 ctccatggac caaggcccg cccagccatg agggagagag gagctgggct ggggggctca  
2521 gcactgtgga tggacctatg gaggtgtctg gcagactccc cagggactac ctgctctcct

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2581 ggcctggcct tgtctgccc tgccagctcc tactcagcca ttcctgaaca gaggacagca  
2641 gagaagggcc agcaccctcc cagaaccatg tggcatttgc caactggatt ttgaccataa  
2701 caatgcagcc attctcccca gacccatcat aggcccgccc ttacaggagg attcgttagt  
2761 agagtccgct ccttgcccca ctagtaacag ctacatgtc tgagcactgc ttacaccagg  
2821 cctggtgcac gtgctttatg tgtcatttca tcactgccag ccacctcaag aggcaggtac  
2881 gatgaaccca ttctgctaag gtccagttag gtttaagtga agaggctgga ttcaaggcag  
2941 gcctggccaa caccagagtg tccatgtctc taactgcagt gtccctcac catcagaagg  
3001 cagggcattt aatacaccag atccccaccg cctcccatct gatttgtctt ggtcaacagt  
3061 gggccaggcc actcctactt cactcgtccc caccctggcc ctcccgag gccctgtcc  
3121 tccctgcctg actatggcaa gccttgcatg cagcttgctc ctactagtgt gtgtcaattt  
3181 tttctctca gctccaagac cctaaacagt gggacctcac cctatgcct gctgttcaaa  
3241 gcagaaaaacg aagctcagga atgctgagg gctgccaggc ctgctctgt gccacaccag  
3301 ggatgcttgt ggggcttctg ctggggcaga cctggcctgg gctgccaggg caggccaca  
3361 accctgcca gcaactcgtt cactgtcact ttgctccac aggcctcgct ctgcaatggc  
3421 agcatggtat ggagcatcaa cctgacagct ggcattgtaa ggacctttg gtgaggag  
3481 gatggggcag aggcctcagg ccttgggctt atcttctctg agcctccctt ccatggctgg  
3541 ggttccaagc aagcttcaag tgtctctctc cctcccgcca taactgggc cctcccgcc  
3601 caccaccag actcactcgc gccaggcatc tcagccccat ctctctgag actcacaaa  
3661 ggcagctgcc caagcagggc ctgaccctcc ggtgtccctt cccacagta cctgtgagcc  
3721 ctggaaatccc tgatcaactg gtcaggctgc agtgccatcg agaagacca gaggatgtg  
3781 agcggattct gccgcacaa ggtctcagct ggggtaaggc atccccacc ctctcacacc  
3841 caccctgcac cccctcctgc caaccctggg ctgctgaag ggaagctggc tgaatatcca  
3901 tgggtgtgtt ccaccagggt gtggggccat tgtggcagca gggacgtggc ctctgggatt  
3961 tacaggatct gggctcaagg gctcctaat cctacctggg cctcaatttc cacatctgta  
4021 cactagaagt actaacagta cccacctcat ggggacttcc gtgaggactg aatgagacag  
4081 tccctggaaa gccctgggtt tgtgcgagtc gtcccgccct ctggcgctt actcacgtgc  
4141 tgacctcttt gtcctgcagc agttttccag ctgcatgtc cgagacacca aaatcgaggt  
4201 gggccagttt gtaaaaggac tgcctttaca tttaaagaaa cttttctcgc agggacggtt  
4261 caactgaaac ttcgaaagca tcattatttg cagagacagg acctgactat tgaagtgtga  
4321 gattcatttt tctttctgat gtcaaaaatg tcttgggtag gcgggaagga gggtaggga  
4381 ggggtaaaat tcttagctt agacctcagc ctgtgctgcc cgtcttcagc ctagccgacc  
4441 tcagccttcc ccttgccag ggtcagcct ggtgggctc ctctgtccag ggccctgagc  
4501 tgggtggacc cagggatgac atgtccctac accctcccc tgccctagag cactgttag  
4561 cattacagt ggtgcccccc ttgccagaca tgtggtgga cagggacca cttcacacac  
4621 aggcaactga ggcagacagc agctcaggca cacttcttct tggctctatt tattattgtg  
4681 tgttatttaa atgagtgtgt ttgtcaccgt tggggatttg ggaagactgt ggctgtggc  
4741 acctggagcc aagggttcag agactcagg gtacagaatt ctgctacctc actggggtcc tggggcctcg  
4801 tccctggtaa taagtactgt gtacagaatt ctgctacctc actggggtcc tggggcctcg  
4861 gagcctcatc cgaggcagggt tcaggagagg ggcagaacag ccgctcctgt ctgccagcca  
4921 gcagccagct ctccagcaac gagtaattta ttgttttcc tcgtatttaa atattaaata  
4981 tgtagcaaa gagttaatat atagaagggt accttgaaca ctggggagg ggacattgaa  
5041 caagtgtttt cattgactat caaactgaag ccagaaataa agttggtgac agataggcct  
5101 gattgtattt gtctttcatt ttggcctttg gggacactgg tctgtggtct gaagactctg  
5161 aggagctctt cgggaggctg gtgggttggg ggaggggact gggatggatt acagcgaggg  
5221 tagggtgcag tgacctgggc tgaatgcaag ctagctccc aggggtggga catggcctgt  
5281 aggaagcccc accttctgtc tgcagacca gcaaggacgg agaggcttg gccagactgt  
5341 cagggttcaa ggagggtatc aggagcagac ggagaccag gaagtctcac aatcacatct  
5401 cctgaggact ggccagctgt gtctggcacc acccacacat ccatgtctcc ctcaaaccc  
5461 aggagggcga tgagaactgt gaggctcaga aagcgtgggc ggtttgccta aggtcacgta  
5521 gctacttctt cactgggggc ctggggcctc agagcctcat ctgaggttaa ggaagcaagt  
5581 tgggattggg gtccaaaatt cactttaact ccaaagccca cactttaac caccctgctt  
5641 atttctgtcc aaatgtcacc tgtctgaat

## (2) INFORMATION FOR SEQ ID NO:84:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1282 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

1 aagccaccca gcctatgcat cgcctctca atcctctcct gttggcactg ggcctcatgt  
61 cgcttttgtt gaccacggtc attgctctca ctgaccttgg cggctttgcc tccccaggcc  
121 ctgtgcctcc ctctacagcc ctccaggagc tcattgagga gctgggtcaac atcacccaga  
181 accagaaggc tccgctctgc aatggcagca tggatggag catcaacctg acagctggca  
241 tctactgtgc agccctggaa tccctgatca acgtgtcagg ctgcagtgcc atcgagaaga  
301 cccagaggat gctgagcggg ttctgcccgc acaaggcttc agctgggcag ttttccagct  
361 tgcattgtcc agacacaaaa atcgagggtg cccagtttgt aaaggacctg ctcttacatt  
421 taaagaaact ttttcgcgag ggacgggtta actgaaactt cgaaagcatc attatttgca  
481 gtagcaggac ctgactattg aagttgcaga ttcatttttc tttctgattg caaaaatgtc  
541 ttgggttagc gggaaggagg gttagggagg ggtaaaaatc cttagcttag acctcagcct  
601 gtgctgcccg tcttcagcct agccgacctc agccttcccc ttgccagggt ctgacctgtg  
661 tgggcttctt ctgtccaggc cctgagctc ggtggacca gggatgacat gtcctacac  
721 cctccccctg ccctagagca cactgtagca ttacagtggg tgccccctt gccagacatg  
781 tgggtgggaca gggaccact tcacacacag gcaactgagg cagacagcag ctcaggcaca  
841 cttcttcttg gtcttattta ttattgtgtg ttattttaa gagtgtgttt gtcaccgttg

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901 gggattgggg aagactgtgg ctgctggcac ttggagccaa gggttcaag actcagggcc  
961 ccagcactaa agcagtggac cccaggagtc cctggtaata agtactgtt acagaattct  
1021 gctacctcac tggggtcctg gggcctcgga gctcatccg aggcagggtc aggagagggg  
1081 cagaacagcc gctcctgtct gccagccagc agccagctct cagccaacga gtaatttatt  
1141 gtttttcctc gtattttaaatt attaaatatg ttagcaaaaga gttaatatat agaagggtag  
1201 cttgaacact gggggagggg acattgaaca agttgtttca ttgactatca aactgaagcc  
1261 aaaaataaag ttggtgacag at

## (2) INFORMATION FOR SEQ ID NO:85:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6952 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

1 ggatccccgc tgacaatcta gaaacaagca acagaccctc tgatgtagcc atctgtgccc  
61 cgctctctcg caccgccccg cagccttggg tccctggaga ccaccctcca gggcaggggc  
121 tgcgcctcgg ccgggccccg ggggtccctc ggctgacat ggccggtgct ggagcggcac  
181 gtgcgcgcct cggccccctg gccgctcccg cccctcgccg gtgcgcaccg gcgctcgggg  
241 agccgctggc ccgggtgtcc agccggccct tgccctgctt ggcgctcggg ccgccacctt  
301 tgcgcgcccc tcgccagcct ccgcagcttc cagactggcc ggtctgcgcg cccacccttg  
361 cctcccgga cggccaccgc cggaggccgc ggaggagggc ccggccgccc agatcccgct  
421 tatcgggccc catctcccggt tacataaagg cccccctta tctccgcccg ccatcgccgc  
481 cgcaaccgac gcgccagcgc cttctcccac gcgcgggggc gcccctgccc accgctcccg  
541 gcaaggcttt tgggtggccat gggggataag gggcggtgac tcaccgcccg ggggtcccg  
601 gagggtgcaca gaccaaggta gttccccgct cttccccca tcacggagac cctgtgggag  
661 atgccgtggg cctctacta cagattagga aacaggcccg tagaggggtc gcgcggccaa  
721 gtgagggcac tccaggcact gggggccttc gagggaaggg gcagacttct gggagtccga  
781 gccagcagct gggctgggaa gcttcgagtg tggacagaga ggggtgggaa gatgttccct  
841 gtgggaagag aggggtggca agcctgggat gcctctgagc gggaatccag catgccttgt  
901 gaggaggggc acaagcacac cttgtgagg aggttgagcc ccatcgagga caggacggag  
961 ggagcctgag caggcagaga gggggccttg ggaggcgctg gttcggggag gaagtgggta  
1021 ggggagaaat cttgacatca acaccaaca ggcaaatgcc gtggcctctg ctgtgggggt  
1081 ttctggagga cttctaggaa aacgagggaa gacgagaaa aggcagacat gctgtagggc  
1141 caagcccagg agccgcccct cacagcactc attctgcaga agggaaattt gaggcccca  
1201 gacggcaggg gttgatctcg cagagactgg tagcaaaagg ggatcacccc aagccccagt  
1261 ggcactagga acacttaca cttctgacct ggactaaggc tgccagcctg gccaggttaa  
1321 gactttccca gaaggatggc cctacactt taaattaaag gggccagaca cgtgcacact  
1381 acttccagcc actctggaag ctgagggtgg gggatcgctt gagtctggga gttggaggcc  
1441 agcctaggca ggcaacatag tgagacccca tctccaaaaa aacaaaaaaa aacaaaaaaa  
1501 aaaaacacca aaaaagctcc cagaaaagac tctgaatctt tctggatctc tcagtggaga  
1561 cctggaaatc tgaactttga caatccctct cactgtggg ccaaggagga attaggcaag  
1621 ccaaaagaag tgaactttac tcttctattg cctgtttgaa tttgtatcc aagcaagtgt  
1681 tacttaagta atttaagaga ctggttcac gaaaaataa aactcccaa attcccatag  
1741 ctggttagact gtggtcacag ccacagtga ctaagactat ctgctcagca cttctggtga  
1801 cccaaaaggg tctgaggaca ggagctcaga gttgggtcag ctgtccaggt actcagggtt  
1861 gtcacaggca aaactgctgg aactcagggc agcattgcaa atgccagcc gctctcaggg  
1921 ccccttgctt gccgctggaa ttaaacccac ccagatcttg gaaactctgc cctggacctt  
1981 tctcaataag tccatgagaa atcaaaactt ttcctttatg cgacactgga tttccacaa  
2041 agtaaaatca agatgagtaa agatgtggtt tctagatagt gcctgaaaaa gcagagacca  
2101 tgggtgtcagg cgtcaccact tgggctata aaagctgcca caagcacaag aggcacaaag  
2161 ccaccagacc tatgcatccg ctctcaatc ctctcctgtt ggcactgggc ctcatggcgc  
2221 tttgttgac caggtcatt gctctcactt gccttggcgg ctttgctccc ccaggccctg  
2281 tgctccctc tacagccctc agggagctca ttgaggagct ggtcaacatc acccagaacc  
2341 agaaggtag tgtcggttag ccagggtcct agctatgagg gctccagggt ggggtattcc  
2401 caagatgagg tcatgagcag gctgggcttg gtcctaagat gcctgtagggt caggaaaaat  
2461 ctccatggac caaggcccg cccagccatg agggagagag gagctgggct ggggggctca  
2521 gcaactgtga tggacctatg gaggtgtctg gcagactccc cagggactac ctgctctcct  
2581 ggcctggcct tgtctgccac tgccagctcc tactcagcca ttcctgaaca gaggacagca  
2641 gagaagggcc agcacctccc cagaaccatg tggcatttgc caactggatt ttgaccataa  
2701 caatgcagcc attctcccca gcaccatcat agggccgccc ttacaggagg attcgttagt  
2761 agagtccgct ccttgcccca ctagtacag ctacatgtc tgagcactgc ttacaccagg  
2821 cctggtgcac gtgctttatg tgtcatttca tcaactgccc ccacctcaag aggcaggtac  
2881 gatgaaccca ttctgtaag gttcagttag gtttaagtac agaggctgga ttcaagccag  
2941 gcctggccaa caccagagtg tccatgctcc taactgcagt gttccctcac catcagaagg  
3001 cagggcattt aatacaccag atccccaccg cctcccatct gatttgcctt ggtcaacagt  
3061 gggccaggcc actcctactt cactcgtccc caccctggcc cttcccgag gccctctgct  
3121 tcttgccttg actatggcaa gccttgcagt cagcttgcct cttactagtg gtgtcaattt  
3181 tttctctca gctccaagac cctaaacagt gggacctcac cctatgctt cctgttcaaa  
3241 gcagaaaacg aagctcagga atgctgagg gctgccaggc ctgctctgt gccacaccag  
3301 ggatgcttgt ggggctgtg ctggggcaga cctggcctgg gctgccaggg caggccaca  
3361 acccctgcca gcaactctgt cactgtcact ttgctccac aggcctccgt ctgcaatggc  
3421 agcatgggat ggagcatcaa cctgacagct ggcattgtaa ggacctttgg gtgagggag  
3481 gatggggcag aggctccagg ccttgggctt atcttctctg agcctccctt ccatggctgg  
3541 ggttccaagc aagcttcaag tgctctctc cctcccgcca taatctggcc cttcccgcc

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3601 caccaccag actcacctgc gccaggcatc tcagcccat cttcctgcag actcacaaaa
3661 ggcagctgcc caagcagggc ctgacccctc ggtgtccctt cccacagta ctgtgcagcc
3721 ctggaatccc tgatcaacgt gtcaggctgc agtgccatcg agaagaccga gaggatgctg
3781 agcggattct gccgcacaa ggtctcagct ggggtaaggc atccccacc ctctcacacc
3841 caccctgcac cccctcctgc caaccctggg ctgcgtgaag ggaagctggc tgaatatcca
3901 tgggtgtgtt ccaccaggg gtggggccat tgtggcagca gggacgtggc cttcgggatt
3961 tacagatct gggctcaagg gtccttaact cctacctggg cctcaatttc cacatctgta
4021 cagtagaggt actaacagta cccacctcat ggggacttcc gtgaggactg aatgagacag
4081 tccctggaaa gcccttggtt tgtgcgagtc gtcccgccct ctggcgttct actcacgtgc
4141 tgacctcttt gtccctgcagc agttttccag cttgcatgtc cgagacacca aaatcgaggt
4201 ggcccagttt gtaaaggacc tgctcttaca tttaaagaaa ctttttcgcg agggacggtt
4261 caactgaaac ttcgaaagca tcattatttg cagagacagg acctgactat tgaagtgtca
4321 gattcatttt tctttctgat gtcaaaaatg tcttgggtag gcgggaagga gggtagggga
4381 ggggtaaaat tccttagctt agacctcagc ctgtgctgcc cgtcttcagc ctaggccacc
4441 tcagccttcc ccttgcccag ggctcagcct ggtgggcctc ctctgtccag ggccctgagc
4501 tcgggtggac caggatgac atgtccctac acccctcccc tgccctagag cccactgtag
4561 cattacagtg ggtgcccccc ttgccagaca tgtggtggga cagggaacca cttcacacac
4621 aggcaactga ggcagacagc agctcaggca cacttcttct tggctctatt tattattgtg
4681 tgttatttaa atgagtgtgt ttgtcacctg tggggattgg ggaagactgt ggctgctggc
4741 acttgagcc aagggttcag agactcaggg cccagcact aaagcagtg accccagag
4801 tccctggtaa taagtactgt gtacagaatt ctgctacctc actggggtcc tggggcctcg
4861 gagcctcatc cgaggcaggg tcaggagagg ggcagaacag ccgctcctgt ctgccagcca
4921 gcagccagct ctacagccaac gagtaattta ttgttttcc tcgtatttaa atattaaata
4981 tgtagcaaaa gagttaatat atagaagggt acctgaaca ctgggggagg ggacattgaa
5041 caagtgtgtt cattgactat caaactgaag ccagaaaata agttggtgac agataggcct
5101 gattgtattt gtctttcatt ttggcctttg gggacactgg tctgtggtct gaagactctg
5161 aggagctctt cgggaggctg gtgggttggg ggaggggact gggatggatt acagcgaggg
5221 taggggtcag tgacctgggc tgaatgcaag ctagctcccc aggggtggga catggcctga
5281 aggaagcccc acctctgttc tgctgcacca gcaaggacgg agaggcttgg gccagactgt
5341 cagggttcaa ggaggcctc agggagcagc ggagaccag gaagtctcac aatcacatct
5401 cctgaggact ggccagctgt gtctggcacc acccacacat ccatgtctcc ctcacaacct
5461 aggaggccga tgagaactgt gaggtctaga aagcgtgggc ggtttgccta aggtcacgta
5521 gctacttctt cactgggggc ctggggcctc agagcctcat ctgaggtaaa ggagcaaat
5581 tgggattggg gtccaaaatt cactttaact ccaaagccca cacacttaac caccctgcct
5641 atttctgtcc aaatgtcacc tgctctgaat
1 aagccacca gcctatgcat ccgctcctca atcctcctt gttggcactg ggcctcatgg
61 cgcttttgtt gaccacggtc attgctctca cttgccttgg cggctttgac tccccaggcc
121 ctgtgcctcc ctctacagcc ctcagggagc tcattgagga gctgggtcaa atcacccaga
181 accagaaggc tccgctctgc aatggcagca tggtagggag catcaacctg acagctggca
241 tgtactgtgc agccctggaa tccctgatca acgtgtcagg ctgcagtgcc atcgagaaga
301 cccagaggat gctgagcggg ttctgcccgc acaaggctct agctgggcag ttttccagct
361 tgcatgtccg agacacaaa atcgaggtgg cccagtttgt aaaggacctg ctcttacatt
421 taaagaaaact ttttcgagc ggacgggtca actgaaactt cgaagacatc attatttgca
481 gagacaggac ctgactattg aagttgcaga ttcatttttc tttctgatgt caaaaatgtc
541 ttgggttagc gggaaaggag gttagggagg ggtaaaatcc cttagcttag acctcagcct
601 gtgctgcccg tcttcagcct agccgacctc agccttcccc ttgccaggg ctgagcctgg
661 tgggcctcct ctgtccaggg cctgagctc ggtggaccca gggatgacat gtccctacac
721 cctcccccgt ccctagagca cactgtagca ttacagtggg tgccccctt gccagacatg
781 tgggtggaca gggaccactc tcacacacag gcaactgagg cagacagcag ctccaggcaca
841 cttcttcttg gtcttattta ttattgtgtg ttattttaa gagtgtgttt gtcaccgttg
901 gggattgggg aagactgtgg ctgctggcac ttggagccaa ggggttcagag actcagggcc
961 ccagcactaa agcagtggac cccaggagtc cctggtaata agtactgtgt acagaattct
1021 gctacctcac tggggtcctg gggcctcggg gcctcatccg aggcagggtc agggaggggg
1081 cagaacagcc gctcctgtct gccagccagc agccagctct cagccaacga gtaatttatt
1141 gtttttctc gtattttaat attaaatatg tttagcaaga gttaatatat agaagggtac
1201 cttgaacact gggggagggg acattgaaca agttgtttca ttgactatca aactgaagcc
1261 agaaataaag ttggtgacag at

```

## (2) INFORMATION FOR SEQ ID NO:86:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1270 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

```

1 ttcggcatcc gctcctcaat cctctcctgt tggcactggg cctcatggcg cttttgttga
61 ccacgggtcat tgctctcact tgcttggcg gctttgcctc cccaggccct gtgcctccct
121 ctacagccct caggagctc attgaggagc tggtaacat caccagaaac cagaaggctc
181 cgctctgcaa tggcagcatg gtatggagca tcaacctgac agctggcatg tactgtgcag
241 ccttggaatc cctgatcaac gtgtcaggct gcagtgccat cgagaagacc cagaggatgc
301 tgagcggatt ctgcccgcac aaggtctcag ctgggcagtt ttccagcttg catgtccgag
361 acacaaaaat cgaggtggcc cagtttgtaa aggacctgct cttacattta aagaaacttt
421 ttcgagggg acggttcaac tgaactctcg aaagcatcat tatttgca gacaggacct
481 gactattgaa gttgcagatt ctttttctt tctgatgtca aaaatgtctt gggtagggcg
541 gaaggagggt tagggagggg taaaattcct tagcttagac ctgagcctgt gctgcccgtc

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601 ttcagcctag ccgacctcag ccttccccctt gccaggggt cagcctggtg ggcctcctct  
661 gtccagggcc ctgagctcgt tggacccagg gatgacatgt ccctacaccc ctccccctgc  
721 cttaggcaca ctgtagcatt acagtgggtg ccccccttgc cagacatgtg gtgggacagg  
781 gacccacttc acacacaggc aactgaggca gacagcagct caggcacact tcttcttggt  
841 cttattttatt attgtgtgtt atttaaatga gtgtgtttgt caccgttggg gattggggaa  
901 gactgtggct gctggcactt ggagccaagg gtccagagac tcagggcccc agcactaaag  
961 cagtggaccc caggagtccc tggtaataag tactgtgtac agaattctgc tacctcactg  
1021 gggctcctggg gcctcggagc ctcatccgag gcagggtcag gagaggggca gaacagccgc  
1081 tcctgtctgc cagccagcag ccagctctca gccaacgagt aatttattgt ttttctcgt  
1141 atttaaatat taaatatgtt agcaaaagat taatatatag aagggtacct tgaacactgg  
1201 gggaggggac attgaacaaq ttgtttcatt gactatcaaa ctgaagccag aaataaagtt  
1261 ggtgacagat

## (2) INFORMATION FOR SEQ ID NO:87:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3999 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

1 tcagcccgcc cgggtctcca ggcgagaggc tgcattgagt ggccggcgcg gctctgcggg  
61 ctgtggggcg tgctgctctg cgccggcgcc gggggcgggg gggggggcg cgcgcctacg  
121 gaaactcagc cactgtgtac aaatttgagt gtctctgttg aaaacctctg cacagtaata  
181 tggacatgga atccaccga gggagccagc tcaaattgta gtctatgta ttttagtcac  
241 tttggcgaca aacaagataa gaaaatagct ccggaaactc gtcgttcaat agaagtaccc  
301 ctgaatgaga ggatttgtct gcaagtgggg tcccagtgta gcaccaatga gagtgagaag  
361 cctagcattt tggttgaaaa atgcatctca cccccagaag gtgatcctga gtctgtctgtg  
421 actgagcttc aatgcatttg gcacaacctg agctacatga agtgttcttg gctccctgga  
481 aggaatacca gtcccgacac taactatact ctctactatt ggcacagaag cctggaaaaa  
541 attcatcaat gtgaaaacat ctttagagaa ggccaatact ttggttgttc ctttgatctg  
601 accaaagtga aggattccag ttttgaacaa cacagtgtcc aaataatggt caaggataat  
661 gcaggaaaaa ttaaaccatc cttcaatata gtgcctttaa cttccctgtg gaaacctgat  
721 cgtccacata ttaaaaacct ctccttcac aatgatgacc tatatgtgca atgggagaat  
781 ccacagaatt ttattagcag atgcctattt tatgaagtag aagtcaataa cagccaaact  
841 gagacacata atgttttcta cgtccaagag gctaaatgtg agaatccaga atttgagaga  
901 aatgtggaga atacatcttg tttcatggtc cctggtgttc ttctgtatac ttgaaacaca  
961 gtacagaataa gagtcaaaaac aaataagtta tgctatgagg atgacaaaact ctggagtaat  
1021 tggagccaag aaatgagtat aggtagaag cgcaattcca cactctacat aacctgtta  
1081 ctcatgttcc cagtcacgtg cgcaggtgca atcatagtag tctgtcttta cctaaaaagg  
1141 ctcaagatta ttatattccc tccaattcct gatcctggca agatttttaa agaaatgttt  
1201 ggagaccaga atgatgatac ttgcaactgg aagaagtacg acatctatga gaagcaaac  
1261 aaggaggaaa ccgactctgt agtgctgata gaaaacctga agaaagcctc tcagtgatgg  
1321 agataattta tttttacctt cactgtgacc ttgagaagat tcttcccat ctccatttgt  
1381 tatctgggaa cttattaaat ggaaactgaa actactgcac catttaaaaa caggcagctc  
1441 ataagagcca caggtcttta tgttgagtcg cgcaccgaaa aactaaaaat aatggcgct  
1501 ttggagaaga gtgtggagtc atttctattg aattataaaa gccagcagc ttcaactag  
1561 gggacaaaag aaaaagtgtat gatagtgggt gagttaatct tatcaagagt tgtgacaact  
1621 tcctgagggg tctatacttg ctttgtgttc tttgtgtcaa catgaacaaa ttttatttgt  
1681 aggggaactc atttgggtg caaatgctaa tgtcaaaact gagtcaaaa gaacatgtag  
1741 aaaaacaaat ggataaaaat tgatatgtat tgtttgggat cctattgaaac catgtttgtg  
1801 gctattaaaa ctcttttaac agtctgggtt ggggtccggt gctcacgcct gtaatcccag  
1861 caatttggga gtccgagggc ggccggtcac tgcaggtcag gatttccaga ccagcctgac  
1921 caaaatgggt aaacctctc tctactaaaa ctacaaaaat taactgggtg tgggtggcggt  
1981 tgcctgtaat ccagctact cgggaagctg aggcaggtga attgtttgaa cctgggaggt  
2041 ggaggttgca gtgagcagag atcacaccac tgcactctag cctgggtgac agagcaagac  
2101 tctgtctaaa aaacaaaaca aaacaaaaca aaacaaaaaa acctcttaat attctggagt  
2161 catcattccc ttcgacagca ttttctctg ctttgaaagc cccagaaatc agtgttggcc  
2221 atgatgacaa ctacagaaaa accagaggca gcttctttgc caagacctt caaagccatt  
2281 ttaggctgtt aggggcagtg gaggtagaat gactccttgg gtattagagt ttcaaccatg  
2341 aagtctctaa caatgtattt tcttcacctc tgctactcaa gtagcattta ctgtgtctt  
2401 ggtttgtgtt agggccccgg gtgtgaagca cagaccctt ccaggggtt acagtctatt  
2461 tgagactcct cagttcttgc cactttttt tttaatctcc accagtcatt tttcagacct  
2521 ttttaactcct caattccaac actgatttcc ccttttgcat tctccctcct tccctcctt  
2581 gtacgctttt gactttcatt ggaaattagg atgtaaatct gctcaggaga cctggaggag  
2641 cagaggataa tttagcatct aggttaagtg tgagtaatct gagaaacaat gactaattct  
2701 tgcataattt gtaacttcca tgtgaggtt tttagcattg atatttgtgc attttctaaa  
2761 cagagatgag gtggtattct cactagaac attgttattc gcttgagaa aaaagaatag  
2821 ttgaacctat ttctctttt ttacaagatg ggtccaggat tctcttttct tctgccataa  
2881 atgattaatt aaatagcttt tgtgtcttac attggtagcc agccagccaa ggctctgtt  
2941 atgcttttgg ggggcatata ttgggttcca ttctcaccta tccacacaac atatccgtat  
3001 atatccctc tactcttact tcccccaat ttaaagaagt atgggaaatg agaggcattt  
3061 cccccacccc atttctctcc tcacacacag actcatatta ctggtaggaa cttgagaact  
3121 ttatttccaa gttgttcaaa catttaccac tcatattaat acaatgatgc tatttgaat  
3181 tcctgtcctt aggggagggg agataagaaa ccctcactct ctacaggtt gggtacaagt  
3241 ggcaacctgc ttccatggcc gtgtagaagc atggtgcccc ggcttctctg aggaagctgg



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3301 gggtcatgac aatggcagat gtaaagttat tcttgaagtc agattgagggc tgggagacaq  
3361 ccgtagtaga tggttctact tgttctgtctg ttctctagaa agaatttttg gttttctctg  
3421 ataggaatga gattaattcc ttccaggta ttttataatt ctgggaagca aaacccatgc  
3481 ctccccctag ccattttttac tgttatccta ttttagatggc catgaagagg atgctgtgaa  
3541 attcccaaca aacattgatg ctgacagtca tgcagtcagg gagtggggaa gtgatctttt  
3601 gttcccatcc tcttctttta gcagtaaaat agctgagggg aaaagggagg aaaaggaagt  
3661 tatgggaata cctgtggtgg ttgtgatccc taggtcttgg gagctcttgg aggtgtctgt  
3721 atcagtggat ttcccatccc ctgtgggaaa ttagtaggct cattactgt tttaggtcta  
3781 gcctatgtgg atttttttcc aacataccta agcaaaccga gtgtcaggat ggtaattctt  
3841 attctttctg tcagttaagt tttcccttcc atctggggac tgaagggata tgtgaaacaa  
3901 tggttaacatt tttggtagtc ttcaaccagg gattgtttct gtttaacttc ttatagggaa  
3961 gcttgagtaa aataaattatt gtctttttgt atgtcacc

## (2) INFORMATION FOR SEQ ID NO:88:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4039 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

1 tgccaaggt ccagccggc cgggtccga ggcagaggc tgcattgagt ggccggcgcg  
61 gctctgcggg ctgtgggcgc tgctgtctctg cgccggcggc gggggcgggg gcggggggcg  
121 cgccgctacg gaaactcagc cacctgtgac aaatttgagt gtctctgttg aaaacctctg  
181 cacagtaata tggacatgga atccaccgga gggagccagc tcaaatgtga gtctatggtta  
241 ttttagtcat tttggcgaca aacaagataa gaaaatagct ccggaaactc gtcgttcaat  
301 agaagtaccc ctgaatgaga ggatttgtct gcaagtgggg tcccagtgtg gcaccaatga  
361 gagtgagaag cctagcattt tgggtgaaaa atgcatctca ccccagaag gtgatcctga  
421 gtctgtctgt actgagcttc aatgcatttg gcacaacctg agtcatatga agtgttcttg  
481 gtcctctgga aggaatacca gtcccgacac taactatact ctctactatt ggcacagaag  
541 cctggaaaaa attcatcaat gtgaaaacat ctttagagaa ggccaatact ttggttggtc  
601 ctttgatctg accaaagtga aggattccag ttttgaacaa cacagtgtcc aaataatggt  
661 caaggataat gcaggaaaaa ttaaacatc cttcaatata gtgcctttta cttcccggtg  
721 gaaacctgat cctccacata ttaaaaacct ctccttccac aatgatgacc tatatgtgca  
781 atggggagaat ccacagaatt ttattagcag atgcctattt tatgaagtga aagtcataaa  
841 cagccaaact gagacacata atgttttcta cgtccaagag gctaaatgtg agaatccaga  
901 atttgagaga aatgtggaga atacatcttg tttcatggtc cctggtgttc ttctgtatc  
961 tttgaacaca gtcagaataa gattcaaaac aaataagtta tgctatgagg atgacaaact  
1021 ctggagtaat tggagccaag aaatgagtat aggttaagaag cgcaattcca cactcatcat  
1081 aacctagttta ctcattgttc cagtcatcgt cgcagggtgca atcatagtag tctgtcttta  
1141 cctaaaaagg ctcaagatta ttatattccc tccaattcct gatcctggca agatttttaa  
1201 agaaatgttt ggagaccaga atgatgatac tctgactggg aagaagtacg acatctatga  
1261 gaagcaaac ccaggagaaa ccgactctgt agtgtgata gaaaacctga agaaagcctc  
1321 tcagtgtatg agataattta tttttacctt cactgtgacc ttgagaagat tcttccatt  
1381 ctccatttgt tatctgggaa cttattaaat ggaaactgaa actactgcac catttaaaaa  
1441 caggcagctc ataagagcca caggcttcta tgttgagtcg cgcaccgaaa aactaaaaat  
1501 aatgggcgct ttggagaaga gtgtggagtc attctcattg aattataaaa gccagcaggc  
1561 ttcaaaactag gggacaaaag aaaaagtgtg gatagtgggt gatttaactc tatcaagagt  
1621 tgtgacaact tctgagggga tctatacttg ctttgtgttc tttgtgtcaa catgaacaaa  
1681 ttttatttgt aggggaactc atttgggttg caaatgctaa tgtcaaaact gagtcacaaa  
1741 gaacatgtag aaacaaaaat ggataaaatc tgatattgat tgtttgggat cctattgaac  
1801 catgttttgt gctattaaaa ctcttttaac agtctgggct gggtcgggtg gctcacgcct  
1861 gtaattcccag caatttggga gtccgaggcg ggcggatcac tcgaggtcag gaggttccaga  
1921 ccagcctgac caaaatgggt aaacctctc tctactaaaa ctacaaaaat taactgggtg  
1981 tgggtggcgcg tgcctgtaat cccagctact cgggaagctg aggcagggtga attgtttgaa  
2041 cctgggaggt ggaggttgca gtgagcagag atcacaccac tgcactctag cctgggtgac  
2101 agagcaagac tctgtctaaa aaacaaaaaa aaacaaaaaa accctcttaat  
2161 attctggagt catcattccc ttccagagca ttttctctg ctttgaaagc ccagaaatc  
2221 agtgttggtc atgatgaaa ctacagaaaa accagaggca gcttctttgc caagaccttt  
2281 caaagccatt ttaggtgttt aggggcagtg gaggtagaat gactccttgg gtattagagt  
2341 ttcaaccatg aagtctctaa caatgtattt tcttcacctc tgctactcaa gtaggcttta  
2401 ctgtgtcttt gggttgtgct aggcctcccg gtgtgaagca cagaccctt ccagggtttt  
2461 acagtctatt tgagactcct cagtcttgc cacttttttt ttaattctcc accagtcatt  
2521 ttccagacct tttaactcct caattccaac actgatttcc ccttttgcat tctccctcct  
2581 tcccttccct gtagcctttt gactttcatt ggaaattagg atgtaaatct gctcaggaga  
2641 cctggaggag cagaggataa ttagcatctc aggttaagtg tgagtaatct gagaacaaat  
2701 gactaattct tgcataattt gtaacttcca tgtgagggtt ttcagcattg atatttgtgc  
2761 attttctaaa cagagatgag gtggtatctt cacgtagaac attgttattc gcttgagaaa  
2821 aaaagaatag ttgaacctat ttctctttct ttacaagatg ggtccaggat tctcttttcc  
2881 tctgccataa atgattaatt aaatagcttt tgtgtcttac attggtagcc agccagccaa  
2941 ggctctgttt atgcttttgg ggggcatata ttgggttcca ttctcacta tccacacaa  
3001 atatccgtat atatcccttc tactcttact tccccaaat ttaaagaagt atgggaaatg  
3061 agaggcattt cccccacccc atttctctcc tcacacacag actcatatta ctggtaggaa  
3121 cttgagaact ttatttccaa gttgttcaaa catttaccaa tcatattaat acaatgatgc  
3181 tatttccaat tctgtctcct aggggagggg agataagaaa ccctcactct ctacagggtt  
3241 ggtgacaagt ggcaacctgc ttccatggcc gtgtagaagc atggtgccct ggcttctctg

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3301 aggaagctgg ggttcagac aatggcagat gtaaagttat tcttgaagtc agattgaggc
3361 tgggagacag ccgtagtaga tgttctactt tgttctgctg ttctctagaa agaataattg
3421 gttttctctg ataggaatga gattaattcc tttccaggtg tttataatt ctgggaagca
3481 aaacccatgc ctcccccag ccatTTTTac tgttatccta tttagatggc catgaagagg
3541 atgctgtgaa attcccaaca aacattgatg ctgacagtca tgcagtctgg gagtggggaa
3601 gtgatctttt gtcccatcc tcttctttta gcagtaaaat agctgagggg aaaggagggg
3661 aaaaggaagt tatgggaata cctgtgggtg ttgtgatccc taggtcttgg gagctcttgg
3721 aggtgtctgt atcagtggat ttcccatccc ctgtgggaaa ttagtaggct catttactgt
3781 tttaggtcta gcctatgtgg attttttctt aacataccta agcaaaccga gtgtcaggat
3841 ggtaattctt attctttcgt tcagttaagt ttttcccttc atctggggac tgaagggata
3901 tgtgaaacaa tgttaacatt tttggtagtc ttcaaccagg gattgtttct gtttaacttc
3961 ttataggaaa gcttgagtaa aataaatatt gtctttttgt atgtcaagcg ggcgcgcacc
4021 gcggtggaaa ctccagctt
```

## (2) INFORMATION FOR SEQ ID NO:89:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5670 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

```
1 ggatccccgc tgacaatcta gaaacaagca acagaccctc tgatgtagcc atctgtgccc
61 cgctctcccg caccgcccgc cagccttgg tccctggaga ccacctcca gggcaggggg
121 tgcgctcgg ccggggcccgc ggggtccctc ggctgacat ggccggtgct ggagcggcac
181 gtgcgcgct cgccctcgc gccctcgcg gtgcgcaccg gcgctcgggg
241 agccgctggc ccgggtgtcc agccggccct tgcctgctt ggcgctcggg ccgcccactt
301 tgcgcccccc tcgccagcct ccgagcttc cagactggcc ggtctgcgcg cccaccctg
361 cctcccgagc cggccaccgc cggaggcgc ggaggaggcg ccggccgccc agatcccgt
421 tatcggggcc catctccgt tacataaggc caccctcta tctccgggg ccctcggcg
481 cgcaaccgcc gcgccagcgc cttctccac gcgcggggg gccctggccc accgctccc
541 gcagggtctt tgggtggcat gggggataag gggcggtgac tcaccggggc ggggtccgg
601 gagttgcaca gaccaaggtg gttcccccgt cttccccca tcacggagac cctgtgggag
661 atgcgctggg ccctctacta cagattagga aacaggcccg tagaggggtc gcgcggccaa
721 gaaacggcac tcaggcact gggggccctc gagggaaagg gcagacttct gggagtcaga
781 gccagcagct gggctgggaa gcttcgagtg tggacagaga ggggtgggaa gacgttccct
841 gtgggaagag aggggtgggca agcctgggat gcctctgagc gggaatccag catgccttgt
901 gaggagggtc acaagcacac cctgtgagc aggttgagcc ccctcgaggc caggacggag
961 ggggcctgag caggcagaga gggggcctgg ggaggcgctg gttcggggag gaagtgggta
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1255

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## (2) INFORMATION FOR SEQ ID NO:90:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14978 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

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3541 atgctgtgaa attcccaaca aacattgatg ctgacagtc tgcaagtctg gagtgggaa  
3601 gtgatctttt gttcccatcc tcttctttta gcagtaaaat agctgagggg aaaggggagg  
3661 aaaaggaagt tatgggaata ccttgggtgg ttgtgatccc taggtcttgg gactcttgg  
3721 aggtgtctgt atcagtggat ttcccatccc ctgtgggaaa ttagtaggct catttactgt  
3781 tttaggtcta gcctatgtgg atttttccct aacataccta agcaaaacca gtgtcaggat  
3841 ggttaattct attcttctgt tcagttaagt ttttccctc atctgggcac tgaagggata  
3901 tgtgaaacaa tgttaacatt tttggtagtc ttcaaccagg gattgtttct gtttaacttc  
3961 ttataggaaa gcttgagtaa aataaatatt gtcttttgt atgtcaagcg ggccgccacc  
4021 gcggtggaaa ctccagctt

1 ggatccccgc tgacaatcta gaaacaagca acagaccctc tgatgtagcc atctgtgccc  
61 cgctctccg caccgccgc cagccttgg tccctggaga ccacctcca gggcaggggc  
121 tgcgcctcg ccgggccgc ggggtccctc ggctgacat ggccgtgtgt ggagcggcac  
181 gtgcgcgcct cggccctcg cggctcccg cccctcgccg gtgcgcaccg gcgctcgggg  
241 agccgctggc ccgggtgtcc agccggccct tgcctgtcct ggcgctcgga ccgccacctt  
301 tgcgcgcctc tgcgcagcct ccgacagctt cagactggcc ggtctgcgcg cccacctctg  
361 cctcccgga cggccaccgc cggaggccgc ggaggagggc ccggccgcg agatcccgct  
421 tatcgggccc catctccgt tacataaggg caccctcta tctccgcggg ccacgcgcg  
481 cgcaaccgcc gcgccagcgc cttctccac gcgcgggggc gcccctgcc accgctcccg  
541 gcagggtttt tgggtggcat gggggataag gggcggtgac tcaccggggc ggggtcccg  
601 gatttgcaca gaccaagta gttccccgt ccttccccca tcacggagac cctgtgggag  
661 atgcccgtgg ccctctacta cagattagga aacaggcccg tagagggtgc gcgcgccaa  
721 gtacgggcac tccaggcact gggggccctc gagggaaggg gcagacttct gggagtcaga  
781 gccagcagct gggctgggaa gcttcgagtg tggacagaga ggggtgggaa gacgttccct  
841 gtgggaagag aggggtggca agcctgggat gcctctgagc gggaaatccag catgccttgt  
901 gaggaggggc acaagcacac cttgtgagg aggttgagcc ccacgagga caggacggag  
961 gtagcctgag caggcagaga gggggcctgg ggagcgctg gttcggggag gaagtgggta  
1021 ggggagaaat cttgacatca acaccaaca ggcaaatgcc gtggcctctg ctgtgggggt  
1081 tttcggagga cttctaggaa aacgagggaa gagcaggaaa aggcagacat gctgtagggg

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1141 caagcccagg agccgccctc cacagcactc attctgcaga agggaaattt gaggccccc  
1201 gacggcagg gttgatcctg cagagactgg tgagcaaagg ggatcacccc aagcccaggt  
1261 ggcactagga acacttacaa tctctgacct ggactaaggc tgccagcctg gccaggttaa  
1321 gagtttccca gaaggatggc ccatacactt taaattaaag gggccagaca cgtgcacact  
1381 acttccagcc actctggaag ctgaggtggg gggatcgctt gagtctggga gttggaggcc  
1441 agcctaggca ggcaacatag tgagacccca tctccaaaaa aacaaaaaaa  
1501 aaaaacacca aaaaagctcc cagaaagacc tctgaatctt tctggatctc tcagtggaga  
1561 cctggaaatc tgaactttga caatccctct cacagtgggg ccaaggagga attaggcaag  
1621 ccaaaagaag tgaactttac tcttctattg cctgtttgaa ttttgtatcc aagcaagtgt  
1681 tacttaagta atttaagaga ctggttcate gaaaaataaa aactcccaa attcccatag  
1741 ctggttagact gtggtcacag ccacagtgc ctaagactat ctgctcagca cttctggtga  
1801 cccaaagggt tctgaggaca ggagctcaga gttgggtcag ctgtccaggt actcagggtt  
1861 gtcacaggga aaactgctgg aactcagggc agcattgcaa atgccacgcc gctctcaggg  
1921 ccccttgcc gccgtggaa ttaaacccac ccagatcttg gaaactctgc cctggaccct  
1981 tctcaataag tccatgagaa atcaaactct ttcctttatg cgacactgga ttttccaaa  
2041 agtaaaatca agatgagtaa agatgtggtt tctagatagt gcctgaaaaa gcagagacca  
2101 tgggtgcagg cgtcaccact tgggcctata aaagctgcca caagacgcca aggcacaaag  
2161 ccaccagcc tatgcatccg ctctcaact ctctcctgtt ggcactgggc ctcatggcgc  
2221 ttttcttgac caggtcatt gctctcactt gccttgccgg ctttgcctcc ccaggccctg  
2281 tgccctccctc tacagccctc agggagctca ttgaggagct ggtcaacatc acccagaacc  
2341 agaagggtgag tgtcggctag ccagggtcct agctatgagg gctccagggt ggggtattcc  
2401 caagatgagg tcatgagcag gctgggcctg gtcctaagat gcctgtagggt caggaaaaat  
2461 ctccatggac caaggcccg cccagccatg agggagagag gagctgggct ggggggctca  
2521 gcaactgtga tggacctatg gaggtgtctg gcagactccc cagggaactac ctgctctcct  
2581 ggcctggcct tgtctgcac tgccagctcc tactcagcca ttcctgaaca gaggacagca  
2641 gagaagggcc agcaccctcc cagaaccatg tggcatttgc caactggatt ttgaccataa  
2701 caatgcagcc atttcccca gcaccatcat aggcccgccc ttacaggagg attcgttagt  
2761 agatgccgct ccttgcccca cttagtaacag ctacatgtc tgagcactgc ttacaccagg  
2821 cctggtgcac gtgctttatg tgtcatttca tcaactgccag ccacctcaag aggcaggtac  
2881 gatgaaccca ttctgtaag gttcagttag gttaagttag agaggctgga ttcaagccag  
2941 gcctggccaa caccagagtg tccatgctcc taactgcagt gttccctcac catcagaagg  
3001 cagggcattt aatacaccag atccccaccg cctccatct gatttgcctt ggtcaacagt  
3061 ggcacaggcc actcctactt cactcgtccc caccctggcc cttcccgag gccctgtcc  
3121 tcttgccctg actatggcaa gccttgcatg cagcttgtcc cttactagt ggtgtcaatt  
3181 ttttctctca gtcctaagac cctaaccagt gggacctcac ccctatgcct gctgttcaaa  
3241 gcagaaaacg aagctcagga atgctgagg gctgccaggc ctgctctgt gccaaccag  
3301 ggatgcttgt ggggcctgtg ctggggcaga cctggcctgg gctgccaggg caggcccaca  
3361 acccctgcca gcaactctgt cactgtcact ttgctccac aggtccgct ctgcaatggc  
3421 agcatggtat ggagcatcaa cctgacagct ggcattgtaa ggacctttg gtgacaggag  
3481 gatggggcag aggtccagg ccttgggctt atcttctctg agcctccctt ccatggctgc  
3541 ggttccaagc aagcttcaag tgcctcctc cctcccgcca taactctggc cttcccgcc  
3601 caccaccag actcacctgc gccaggcatc tcagcccat cttctctgag actcacaaa  
3661 ggcagctgcc caagcagggc ctgaccctc ggtgtcccct cccacagta ctgtgcagcc  
3721 ctggaatccc tgatcaacgt gtcaggctgc agtgccatcg agaagaccca gaggatgtg  
3781 agcggattct gcccgcaca ggtctcagct ggggtaaggc atccccacc ctctcacacc  
3841 caccctgcac cccctcctgc caaccctggg ctgctgaag ggaagctggc tgaatatcca  
3901 tgggtgtgtt ccacccagg gttgggccc cctacctggg cctcaatttc cacatctgta  
3961 tacaggatct gggctcaagg gctcctaact ggggacttcc gtgaggactc aatgagacag  
4021 cagtagaggt actaacagta cccacctcat ggggacttcc gtgaggactc actcacgtgc  
4081 tccctggaaa gccctgtgtt tgtgcgagtc gtcccgccct ctggcgttct actcacgtgc  
4141 tgacctcttt gtcctgcagc agttttccag cttgcatgtc cgagacacca aaatcgaggt  
4201 ggcacagttt gtaaaggacc tgctcttaca tttaaagaaa ctttttcgag agggacgggt  
4261 caactgaaac ttcgaaagca tcattatttg cagagacagg acctgactat tgaagtgtga  
4321 gattcatttt tctttctgat gtcaaaaatg tcttgggtag gcgggaagga ggggttagga  
4381 ggggtaaaaa tcttagctt agacctcagc ctgtgtctgc cgtcttcagc ctgaccgacc  
4441 tcagccttcc ccttgcccag ggctcagcct ggtgggcctc ctctgtccag ggcctgagc  
4501 tcggtggacc cagggtgac atgtccctac accctccccc tgccctagag cacactgtag  
4561 cattacagt ggtgcccccc ttgccagaca tgtggtggga cagggaacca cttcacacac  
4621 aggcaactga ggcagacagc agctcaggca cacttcttct tggcttatt tattattgtg  
4681 tgttatttaa atgagtgtgt ttgtcaccgt tggggattgg ggaagactgt ggtgctggc  
4741 acttggagcc aagggttcag agactcagg cccagcact aaagcagtgg accccaggag  
4801 tccctggtaa taagtactgt gtacagaatt ctgctacctc actggggtcc tggggcctcg  
4861 gagcctcatc cgaggcagg tccaggagag ggcagaacag ccgctcctgt ctgccagcca  
4921 gcagccagct ctacagcaac gactaattta ttgttttcc tctgatttaa atattaaata  
4981 tgttagcaaa gacttaatat atagaagggt acctgaaca ctgggggagg ggacattgaa  
5041 caagttgttt cattgactat caaactgaag ccagaaataa agttggtgac agataggcct  
5101 gattgtattt gtctttcatt ttggcctttg gggacactgg tctgtggtct gaagactctg  
5161 aggagctctt cgggaggctg gtgggttggg ggaggggact gggatggatt acagcgaggg  
5221 tagggtgcag tgacctgggc tgaatgcaag ctagctccc aggggtggga catggcctga  
5281 aggaagcccc acctctgtc tgctgcacca gcaaggacgg agaggcttg gccagactgt  
5341 cagggttcaa ggaggcatc agggagcagac ggagaccag gaagtctcac aatcacatct  
5401 cctgaggact ggccagctgt gtctggcacc acccacacat ccatgtctcc ctcaacacc  
5461 aggaggccga tgagaaactgt gaggctcaga aagcgtgggc ggttgccta aggtcacgta  
5521 gctacttctc cactggggtc ctggggcctc agagcctcat ctgaggtaaa ggaagcaagt  
5581 tgggattggg gtccaaaatt cactttaact ccaaagccca cacacttaac caccctgcct

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5641 atttctgtcc aaatgtcacc tgtcctgaat

## (2) INFORMATION FOR SEQ ID NO:91:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1793 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

```
1 caacaccttc agaaataatc ctttgggtga tctctgtca atcatttgtg caggctagag
61 aggcacctgt gaatgataag gctactgaga agcatcattg gcctgggtcct ggcaactacca
121 aagggcaggg gaagcgatgc ccaaggggct cctgaccagc acatcatccc acgcaaaaac
181 attctccagg tcccttggtc caggcaggaa atccccagct ctgagcgccc tgccagggct
241 ctgcctaggg acaccttttc caggtctaga gaatcaaagg agcctccaga gcagctagga
301 gggcctgagc tgaccaagca agccctgctc acaagacaaa tgcagtcaag acctgggtgt
361 attacttgtc ttgagctctg aagggcaggg aggggtctga gcctcaaate agacagagaa
421 atgctcaagt cacttctgcc aactcactgt gatggcagct acagatgaca gcccctctca
481 agactcttca gctcacagac aagccactga cttcatctgt acacaccccc atccccaatg
541 caagcccact gtacacttac aggtataaat gcatttgcaa ggcttgcaa aatgccctat
601 gtacgtaaaa ctgaccacaa aaatccaaaa ttgcaagtgc cagatgccag ccaggctaga
661 acatcctggc ttcagcaatg ggctgctcag catgggagcc ttttatgggc caggcctggc
721 tgggctgccc ctcccttccc agcatgaccc aacaccaggc tctctaggcc ctggcgagg
781 tgggctcttg aggccagtc tggcctgatg cttctgtgct cgggtgctcct gggtagcaag
841 gcgcttctgt gaccctgggg gagctgggtg cttgagcccc aggccctctt ggccctctct
901 cagggccact gtcagtggag gagccctggc caccagcact caggctcctgt accctcttgt
961 tcaggtcatt gcgctctgtc tgcagtgcgc ggcacagctt ctccagccgt tggattttta
1021 cctgcaggcc ctccagttct ttatcccgga ctgttttctc ctacagccat tcaagcaggg
1081 ccttggttgt gctctccac cgggaccggt acatggtggt ttctttctcc agcttcttga
1141 tcttcttagt catcttttcc atctcctgct tgaatgtggt gaatacctcg ctgcttttgg
1201 aaagtgtgtt ctggaactcc tcaaacttct ctgtgtatag ggcaagctgt tgcttcaggt
1261 gggctctctt ctgcttcac agctcacaca tccctctgga ctctactgcc tctttcagga
1321 gaaaatcctt ctcccgtgg tgccgctctt ctgctcctt tagcatctcc tgggctgct
1381 ggagcttggc atccaccagc tgcgttggta ggtccttggt tttgaagact ttgtcgatat
1441 gctcctcgcg cagctcatac tgctcaatca gcttcttgag cctctcagcc agctccatgt
1501 tctcttgccg cagcttgagg ttgcgctcat tgtgctgttc catctgcagc tgaatgtcat
1561 tcagtgtcac ctggaagtgc gaggtcacct ccttgccgtt ctccctctcc tccccggccc
1621 gctgcacacc ttcttccttg agggagcggg tgtgcccgtg cagctcacgg cataggctct
1681 caagcttgct gcgggcccagg acggcttgct gtgctcaccg cgcaggtggt ccttctcttg
1741 caccagctgg ctctgctttt tctgtaggag cttcatctgc ttctgtgaat tcc
```

## (2) INFORMATION FOR SEQ ID NO:92:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1793 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

```
1 caacaccttc agaaataatc ctttgggtga tctctgtca atcatttgtg caggctagag
61 aggcacctgt gaatgataag gctactgaga agcatcattg gcctgggtcct ggcaactacca
121 aagggcaggg gaagcgatgc ccaaggggct cctgaccagc acatcatccc acgcaaaaac
181 attctccagg tcccttggtc caggcaggaa atccccagct ctgagcgccc tgccagggct
241 ctgcctaggg acaccttttc caggtctaga gaatcaaagg agcctccaga gcagctagga
301 gggcctgagc tgaccaagca agccctgctc acaagacaaa tgcagtcaag acctgggtgt
361 attacttgtc ttgagctctg aagggcaggg aggggtctga gcctcaaate agacagagaa
421 atgctcaagt cacttctgcc aactcactgt gatggcagct acagatgaca gcccctctca
481 agactcttca gctcacagac aagccactga cttcatctgt acacaccccc atccccaatg
541 caagcccact gtacacttac aggtataaat gcatttgcaa ggcttgcaa aatgccctat
601 gtacgtaaaa ctgaccacaa aaatccaaaa ttgcaagtgc cagatgccag ccaggctaga
661 acatcctggc ttcagcaatg ggctgctcag catgggagcc ttttatgggc caggcctggc
721 tgggctgccc ctcccttccc agcatgaccc aacaccaggc tctctaggcc ctggcgagg
781 tgggctcttg aggccagtc tggcctgatg cttctgtgct cgggtgctcct gggtagcaag
841 gcgcttctgt gaccctgggg gagctgggtg cttgagcccc aggccctctt ggccctctct
901 cagggccact gtcagtggag gagccctggc caccagcact caggctcctgt accctcttgt
961 tcaggtcatt gcgctctgtc tgcagtgcgc ggcacagctt ctccagccgt tggattttta
1021 cctgcaggcc ctccagttct ttatcccgga ctgttttctc ctacagccat tcaagcaggg
1081 ccttggttgt gctctccac cgggaccggt acatggtggt ttctttctcc agcttcttga
1141 tcttcttagt catcttttcc atctcctgct tgaatgtggt gaatacctcg ctgcttttgg
1201 aaagtgtgtt ctggaactcc tcaaacttct ctgtgtatag ggcaagctgt tgcttcaggt
1261 gggctctctt ctgcttcac agctcacaca tccctctgga ctctactgcc tctttcagga
1321 gaaaatcctt ctcccgtgg tgccgctctt ctgctcctt tagcatctcc tgggctgct
1381 ggagcttggc atccaccagc tgcgttggta ggtccttggt tttgaagact ttgtcgatat
1441 gctcctcgcg cagctcatac tgctcaatca gcttcttgag cctctcagcc agctccatgt
```



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1501 tctcttggcg cagcttggag ttgcgtcat tgtgctgttc catctgcagc tgaatgtcat  
 1561 tcagtgtcac ctggaagtgc gaggtcacct ccttgcgtt ctctctctcc tccccggccc  
 1621 gctgcacacc ttcttctctg agggagcggg tgtgcccgtg cagctcacgg cctaggctct  
 1681 caagcttgct gcggggccagg acggcttgct gtgtccaccg cgcaggtggg ccttctcttg  
 1741 caccagctgg ctctgctttt tctgtaggag cttcatctgc ttctgtgaat tcc

## (2) INFORMATION FOR SEQ ID NO:93:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1248 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

1 aaatcctggc tgtcatgtac ttgctatggg cctagagtag cttacctaaa tgctactaac  
 61 cttcctccat accattattg taaagattaa aggtgatgca tctgttaagt aactaataga  
 121 gtgcttatta aaaggtaggt gttcaataag tattaattcc ctccctttct ttttcttact  
 181 agtgcacttg tgtttttaat ggatcatact ttaccctaga ttgtattgta ggaggcatcg  
 241 tggatggatg gctgctggaa accccttgcc atagccagct cttcttcaat acttaaggat  
 301 ttaccgtggc tttgagtaat gagaatttcg aaaccacatt tgagaagtat ttccatccag  
 361 tgctacttgt gtttacttct aaacagtcatt tttctaactg aagctggcat tcatgtcttc  
 421 attttgggat gcagctaata taccagttg gcccaaagca cctaacctat agttatataa  
 481 tctgactctc agttcagttt tactctacta atgccttcatt ggtattggga accatagatt  
 541 tgtgcagctg tttcagtgca gggcttctta aaacagaagc caactgggtg aatgtaataa  
 601 gtgatttgaa aaaaattgaa gatcttattc aatctatgca tattgatgct actttatata  
 661 cggaaagtga tgttcacccc agttgcaaaag taacagcaat gaagtgtctt ctcttgaggt  
 721 tacaagttaa ttcacttgag tccggagatg caagtattca tgatacagta gaaaatctga  
 781 tcatcctagc aaacaacagt ttgtcttcta atgggaatgt aacagaatct ggtgcaaaag  
 841 aatgtgagga actggagaaa aaaaatatta aagaattttt gcagagtttt gtacatattg  
 901 tccaaatggt catcaacact tcttgattgc aattgattct ttttaaagtg tttctgttat  
 961 taacaaacat cactctgctg cttagacata acaaaacact cggcatttca aatgtgctgt  
 1021 caaaacaagt ttttctgtca agaagatgat cagaccttgg atcagatgaa ctcttagaaa  
 1081 tgaaggcaga aaaatgtcat tgagtaatat agtgactatg aacttctctc agacttactt  
 1141 tactcatttt ttaatttat tattgaaatt gtacatattt gtggaataat gtaaaatggt  
 1201 gaataaaaat atgtacaagt gttgtttttt aaaaaaaaaa aaaaaaaaaa

## (2) INFORMATION FOR SEQ ID NO:94:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1202 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

1 tgtccggcgc cccccgggag ggaactgggt ggccgcaccc tccccgctgc ggtggctgtc  
 61 gccccccacc ctgcagccag gactcgatgg agaattccatt ccaatatatg gccatgtggc  
 121 tctttggagc aatgttccat catgttccat gctgctgctg acgtcacatg gagcacagaa  
 181 atcaatgtta gcagatagcc agcccataca agatcgattt gtattgtagg aggcacgtg  
 241 gatggatggc tgcaggaaac cccttgccat agccagctct tcttcaatac ttaaggattt  
 301 accgtggctt tgagttaata gaatttcgaa accacatttg agaagtattt ccattccagt  
 361 ctacttggtt ttacttctaa acagtcattt tctaactgaa gctggcattc atgtcttcat  
 421 tttgggctgt ttcagtgcag ggcttcttaa aacagaagcc aactgggtga atgtaataag  
 481 tgatttgaaa aaaattgaag atcttattca atctatgcat attgatgcta ctttatatac  
 541 ggaaagtgat gttcacccca gttgcaaaat aacagcaatg aagtgccttc tcttgaggt  
 601 acaagttatt tcaattgagt ccggagatgc aagtattcat gatacagtag aaaatctgat  
 661 catcctagca aacaacagtt tgtcttctaa tgggaatgta acagaatctg gatgcaaaag  
 721 atgtgaggaa ctggaggaaa aaaaatattaa agaatttttg cagagttttg tacatattgt  
 781 ccaaatgttc atcaacactt cttgattgca attgattctt tttaaagtgt ttctgttatt  
 841 aacaacatc actctgctgc tttagacataa caaaacactc ggcattttaa atgtgctgtc  
 901 aaaacaagt tttctgtcaa gaagatgatc agaccttga tcagatgaac tcttagaaat  
 961 gaaggcagaa aaatgtcatt gagtaataata gtgactatga acttctctca gacttacttt  
 1021 actcattttt ttaatttat attgaaattg tacatatttg tggataaatg taaaatgttg  
 1081 aataaaaaata tgtacaagtg ttgtttttta agttgcactg atattttacc tcttattgca  
 1141 aaatagcatt tgtttaaggg tgatagtcaa attatgtatt ggtggggctg ggtaccaatg  
 1201 ct

## (2) INFORMATION FOR SEQ ID NO:95:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14928 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

1 ggcattgtaa tcagacagaa ctggcctcaa atcctggctg tcatgtactt gctatgggcc  
 61 tagagttagt tacttaaatg ctactaacct tcctccatc cattattgta aagattaaag  
 121 gtgatgcac tgtaagtaa ctaatagagt gcttattaaa aggtagggtg tcaataagta

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181 ttaattccct ttctttcttt ttcttactag tgcacttgtg tttttaatgg atcatacttt  
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13921 tattttacct cttattgcaa aatagcattt gtttaagggg gatagtcaaa ttatgtattg  
13981 gtggggctgg gtaccaatgc tgcaggtaa cagctatgct ggtaggctcc tgccagtgtg  
14041 gaaccactga ctactggctc ctattgactt ccttactaag catagcaaac agaggaaaga  
14101 tttgttatca gtaagaaaaa gaagaactat atgtgaatcc tcttctttat actgtaattt  
14161 agttattgat gtataaagca actgttatga aataaagaaa ttgcaataac tggcatataa  
14221 tgtccatcag taaatcttgg tgggtggggc aataataaac ttctactgat aggtagaatg  
14281 gtgtgcaagc ttgtccaatc acggattgca ggccacatgc ggcccaggac aactttgaat  
14341 gtggcccaac acaaattcat aaactttcat acatctcgtt tttagctcat cagctatcat  
14401 tagcggtagt gtattttaaag tgtggcccaa gacaattctt cttattccaa tgtggccag  
14461 ggaatcaaaa agattggatg cccctgggat agaaaactaa tagtgacagt gttcatattt  
14521 catgctttcc caaatacagg tattttattt tcacattctt ttgtccatgt ttatataata  
14581 ataaagaaaa accctgttga tttgttggag ccattgttat ctgacagaaa ataattgttt  
14641 atattttttg cactacactg tctaaaaatta gcaagctctc ttctaattga actgtaagaa  
14701 agatgaaata tttttgtttt attataaatt tatttcacct taattctggt aatactcact  
14761 gagtgcactgt ggggtgggaa atgatctctt aagaatttga ttcttttcta ttccatagta  
14821 caaactcgtt ctctgttgaa acattcttct atcaccctcag tgccctatcc atgtacatgt  
14881 gttcttattg ctctagtcaa acggtgctta taaatctctt tcagaaagct taggagaaat  
14941 ctgtatccta tttgacttcc aataatca

## (2) INFORMATION FOR SEQ ID NO:96:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 486 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

1 cggattggga tcggacctac ttgattcact tctgggaaat caaggatcta cgtaccatgg  
61 attttcaggt gcagattttc agcttctctg taatcagtgc ctacgtcata atgtctagag  
121 ccaactgggt gaattgtaata agtgatttga aaaaaattga agatcttatt caatctatgc  
181 atattgatgc tactttatat acggaaagtg atgttcaccc cagttgcaaa gtaacagcaa  
241 tgaagtgcct tctcttgag ttacaagtta ttctacttga gtccggagat gcaagtattc  
301 atgatacagt agaaaatctg atcatcctag caaacaacag ttgtcttct aatgggaatg  
361 taacagaatc tggatgcaaa gaattgtagg aactggagga aaaaaatatt aaagaatttt  
421 tgcagagttt tgtacatatt gtccaaatgt tcatcaacac ttcttgattg caattgatcc  
481 ctcgag

## (2) INFORMATION FOR SEQ ID NO:97:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17864 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

1 aaatcctggc tgtcatgtac ttgctatggg cctagagtag cttacctaaa tgctactaac  
61 ctctctccat accattattg taaagattaa aggtgatgca tctgttaagt aactaataga  
121 gtgcttatta aaagtaggt gttcaataag tattaattcc ctccctttct ttttcttact  
181 agtgcacttg tgtttttaat ggatcatact ttaccctaga ttgtatttga ggaggcatcg  
241 tggatggatg gctgctggaa accccttgcc atagccagct cttcttcaat acttaaggat  
301 ttaccgtggc tttgagtaat gagaatttct aaaccacatt tgagaagat ttccatccag  
361 tgctacttgt gtttacttct aaacagtcatt ttcttaactg aagctggcat tcatgtcttc  
421 attttggat gcagctaata taccagtgt gcccaaagca cctaacctat agttatataa  
481 tctgactctc agttcagttt tactctacta atgccttcat ggtattggga accatagatt  
541 tgtgcagctg tttcagtga gggcttctta aaacagaagc caactgggtg aatgtaataa  
601 gtgatttgaa aaaaattgaa gatcttattc aatctatgca tattgatgct actttatata  
661 cggaaagtga tgttcacccc agttgcaaa taacagcaat gaagtgtctt ctcttggagt  
721 tacaagttat ttcacttgag tccggagatg caagtattca tgatacagta gaaaatctga  
781 tcatcctagc aaacaacagt ttgtcttcta atgggaatgt aacagaatct ggatgcaaa  
841 aatgtgagga actggagaaa aaaaatatta aagaattttt gcagagtttt gtacatattg  
901 tccaaatgtt catcaacact tcttgattgc aattgattct ttttaagtgt tttctgttat  
961 taacaaacat cactctgctg cttagacata acaaaacact cggcatttca aatgtgctgt  
1021 caaaacaagt tttctgtca agaagatgat cagaccttgg atcagatgaa ctcttagaaa  
1081 tgaaggcaga aaaatgtcat tgagttaatat agtgactatg aacttctctc agacttactt  
1141 tactcatttt ttttaattat tattgaaatt gtacatattt gtggaataat gtaaaatgtt  
1201 gaataaaaaat atgtacaagt gttgtttttt aaaaaaaaaa aaaaaaaa  
1 tgtccggcgc cccccgggag ggaactgggt ggccgcaccc tcccggctgc ggtggctgtc  
61 gccccccacc ctgcagccag cactcgatgg agaattcatt ccaatatatg gccatgtggc  
121 tctttggagc aatgttccat catgttccat gctgctgctg acgtcacatg gagcacagaa  
181 atcaatgta gcagatagcc agccataca agatcgtatt gtattgtagg aggcacgtg  
241 gatggatggc tgcgggaaac cccttgccat agccagctct tcttcaatac ttaaggattt  
301 accgtggctt tgagtaatga gaatttcgaa accacatttg agaagtattt ccatccagtg  
361 ctacttgtgt ttacttctaa acagtcattt tctaactgaa gctggcattc atgtcttcat

421 tttgggctgt ttcagtgcag ggcttcctaa aacagaagcc aactgggtga atgtaataag  
481 tgatttgaaa aaaattgaag atcttattca atctatgcat attgatgcta ctttatatac  
541 ggaagtgat gttcacccca gttgcaaagt aacagcaatg aagtgccttc tcttggagtt  
601 acaagttatt tcacttgagt ccggagatgc aagtattcat gatacagattg aaaatctgat  
661 catcctagca aacaacagtt tgtcttctaa tgggaatgta acagaatctg gatgcaaga  
721 atgtgaggaa ctggaggaaa aaaatattaa agaatttttg cagagttttg tacatattgt  
781 ccaaatgttc atcaacactt cttgattgca attgattctt tttaaagtgt tctgttatt  
841 acaaacatc actctgtctg ttagacataa caaaacactc ggcattttaa atgtgtgtc  
901 aaaacaagtt tttctgtcaa gaagatgatc agaccttgga tcagatgaac tcttgaaat  
961 gaaggcagaa aaatgtcatt gagtaataa gtgactatga acttctctca gacttacttt  
1021 actcattttt ttaatttatt attgaaattg tacatatttg tggaataatg taaaatgttg  
1081 aataaaaaa tgtacaagtg ttgtttttta agttgactg atattttacc tcttattgca  
1141 aaatagcatt tgtttaaggg tgatagtc aaatgtatt ggtgggctg ggtaccaatg  
1201 ct

1 ggcattgtaa tcagacagaa ctggcctcaa atcctggctg tcatgtactt gctatggccc

61 tagagttagt tacctaaatg ctactaacct tctcccatc cattattgta aagattaaag  
121 gtgatgcac tgtaagtaa ctaatagagt gcttattaaa aggtaggtgt tcaataagta  
181 ttaattccct tctttcttt tcttactag tgcactttgt tttttaaag atcatacttt  
241 accctagatt gtattgtagg aggcactcgt gatggatggc tgctggaac cccttgccat  
301 agccagctct tctcaatac ttaaggattt accgtggctt tgagtaatga gaattccgg  
361 taagaagaaa aatagatgaa aatatcctat ggaatttccc ttaaaggtcg tctgaatctc  
421 agagtctttg caataagtta catggttatt ctccaaagat cttgagatat cacagatgtc  
481 tgttcacatt tggattgttc ttattttgaa aataaataag tttttaaata cttattgac  
541 catcttgata ggctcttctt gtcattataa atgtgttatt tcaactatcc cactctttg  
601 tgttctctaa atgtctttgt actcactaaa ttgtgtatgc ttagagggca ggggtgtggg  
661 atcattcatc tttttgaaag gaagcatgaa caattagtgg ttaaggtggc agttaacact  
721 gctttctgaa actttaaaag cttcgacaac acaaaagagg cagggtgaaag taccaaaact  
781 ctggttaagt gtaggataaa tgattttcct aaatcaccaa gaaagattat tagtactct  
841 caagatggaa tacagtatct gtaattggtt ccattttatc caatttttca ccaataata  
901 ttaataaat tcattttcat aattttacat aagttaatat aactattgca tctctgttag  
961 taatgcatgt tattaacctg tgcgtataa aatattttga cctattaaaa aagaaagaag  
1021 gatgaggagg aggtcaaaga taatataaaa actttaagtg gtgacattgg tatgtatgta  
1081 aattaacaaa tatgtcaact ttgttaaat atctttgaca tgcactctgca gaaatctctg  
1141 ttaaggaact ttgtgcataa gagacagagt tggaggtggg agagaaagtg aaaaaagata  
1201 aattatagtt ttattatttt tgataagggg cagtaattat gaaattatga caaacttaca  
1261 tctttagacc tagaaatatg ttgacatgtt attttaaacc tcaactttta actaaaaat  
1321 ttaaccattt gtctatgatt atatttttca gaaaccacat ttgagaagta tttccatcca  
1381 gttactcttg tgtttacttc taaacagtgca ttttctaact gaagctggca ttcattctt  
1441 cattttgggg gtaattttat ctttaggcat aaataacatt atgttcatgg tcatgatgat  
1501 tgtccttgga tatattttcc attaaattag ttacgttca gtttgcttat atctctaggt  
1561 actcagtatc tgggggatag aaggcagact acagagattt agagaggttt ggtaaacacc  
1621 taactgagca ttttctaca ttgtgtaatt agtccaaaca agcattatag cctcaata  
1681 aattgggccc tttgatattt aactgaactt ggaagtatac cacttattga tagactacat  
1741 atttttcatg gcaattaaaa gtagatattt agaatttgct tatgttactt ttttatctgt  
1801 cctgacact gactcctct atcccttgat ctttatccta gttaggtt aaacatttct  
1861 ttctttattt aagccttttg ttgtttcctt ctaataaaat tcatatgttt ccatgactat  
1921 taactttttt cttctctctt agatgcagct aatatacca gttggccaa agcactaac  
1981 ctatagtatt ataactctgac tctcagttca gttttactct actaatgcct tcatgttatt  
2041 ggaaccata gatttgtgca ggttaattct catcataaga cagatttagt ttgactatca  
2101 tgcttctgtg taagatccat caggaagtga gtgattattt tctctcaagc tctaagcatc  
2161 attccaatgt tacttggtca gtataagtgt attttgtctg gatattaaat ttaattttt  
2221 atgaaatttg tgaaagttag taagtatag atcattcagc ctacactgga atgaagtctg  
2281 tactgtttat ggagaaagct gctgcaagca tagtaagagt gtgagcaaa tgaaaggggc  
2341 atgtttaatg tagtgtaaaa aaaatttact atcaaaatca ttacatgaaa atgattatta  
2401 ctcattttta gaattttacc tatttattag acttcaaagt ctctgtaaat ctctacttaa  
2461 aggaactag taattcattc aaaatcattt attgagcatt gccacacatc tggcactgct  
2521 tctatttcatt tgtgataaat tgagccagtt tatttataaa gtatgcctac agttaggctt  
2581 ttctctaate cgggttggtg aagcctcaag ttatcataaa atgccaaaat tgtactatat  
2641 gctcaatgtt tatgttcagt tacaaggctg ttgaatgcac agaagcaagg ataactga  
2701 ttttttctact ggtcagaata aaaattattg attgctcttt tgcttatagt attcatcaag  
2761 atgaataggc tcttcaaaa tgctttgtct tatgtttttt ctttcagctg tttcagtga  
2821 gggcttctca aaacagaagc caactgggtg aatgtaataa gtgatttgaa aaaaattgaa  
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2941 ttgtctctct ctgtgtttt ctgtctgtct taaggaaacc acacttgaaa caataatatt  
3001 tttgtagaaa tttatgatct tataaagctc aaaaagaagt ctttccctta ctgttttga  
3061 atctaattat ctttaaaacg taatttataa gcggcccaga cggatgagtt ctagtctgca  
3121 caggtgaggt attctcttcc tctatctgga gaagccagat atcttggtg cactgcagg  
3181 gagaatggct tgaccaggg aacagctggt gttgcttggt gactaaaggc cctcttctcc  
3241 cactcaaga aaacaggtgg cctgacctaa ggaagtgatt tttgccatag caggtaatac  
3301 cagcttcagt ggaagtctcg atggcaccia gcataccaaa atagcaccac aaagttctga  
3361 aaactaaat gtcattggaa tcacagcatt aaaaaatagg ttagaacttg catgttaaat  
3421 ccaacaacc tgactgcatg ttaaaataga agatttaaat aggaccagag tgccttaaca  
3481 taatagacat gaagccaaga tacaattgga aatcacccat tgtaacaaga ataggaag  
3541 ttacaactta aatgagaaaa tatagtcaac agattacaaa attgaagtgg atcagatgtt  
3601 ggaattctct gacatagatt tgaaagcaga cattataaaa agtgcttgaa aaagcaatta

3661 caaatgccct tgaagcaaat gaaaaactaa atgccttaac aaagaaatag aagatatgaa  
3721 aggaaccata tagaaattat ataactgaaa atataactga aatataaagc aaactgtaaa  
3781 ggctcattag cagaatgaat gacagaggaa tgatagttaa ttgacaaca gaatactaga  
3841 gagacagttg acttaagaaa aaaaaagcat cactgatctt gacgacagta acaaaagatt  
3901 cagcattcct atgggttagta tcacaggaga gtatgagaat acaccaagta aaagagagag  
3961 attgggtgaa ttcataacaa aacaccaccc atctatacta tctataagca gttcacttct  
4021 agtacaatga catacatagg ttgaaattta aaaagacaga aaaagatata gcatactata  
4081 atgggttgaa tagtgtcccc ccaaatttca catcctcttg gaaccttaaa atgtgatctt  
4141 attttgaaat aatatctttg caaatataat taatgaaatt aagatgagat catactagag  
4201 tagggggggc cctaaatcca atgacaagtg tctttattag aaaaggaaag gacacagagt  
4261 aactcactgg gaagaaagcc atgtgaagac agaggaagag atcagagtga tggcgctata  
4321 agccaaggaa ggccagagat tgccaggatc caccagaacc ttggggaagt caagaaagca  
4381 ttcttctcta gactgatata catgcataca ttaattataa aaagcagaag tggctatat  
4441 aacatcaaag ttaatgttat taacataaag tagacttcac agaaaaataa gttgctataa  
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4621 aaagagaaat agacaaatcc acaattattc ttgaggactt cactgcctcc tctcagtaa  
4681 ctaatggaag tactagacag aaaatcagaa agggcataaa aatacaatat aaccaacca  
4741 caggatctaa tttaatacat agagcactac acccaacaac agcagaatat actttctttt  
4801 atcaagacta aatatatact gagccataaa agaaacttta aaaatttttt cagaacttaa  
4861 atcatgcaga atttgttctc aaaccacaaat ggaatcaaac cagaaatcaa gaaattaaat  
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5701 aggaggccag tattactgtg atgctaaaaa caaataaaga tattactaaa aaagacaact  
5761 acaaaaatat ctcccattaa cttagattat aaaatgctct ataaaaattt aacaaatcga  
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5941 gaagaaaatc atatgtagaa aaggtatctg ataaaatgca acacctctca tggcctgtgt  
6001 ccttccctat gcctcctgga tttatatgtt gaagtactaa ttgccagtat atcaaaatgt  
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6121 atgactggta tctttagaaa aacagataag ggtatagata cacagagata gaaaaccatg  
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6301 ctattattta agtcaccaag tctgtggtac tttttatagc agccctagca gactgatata  
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6421 acaaaacatg ttcaaaaagt cttagagctac catacttaat ggtgagtaca agactgaatg  
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6721 tggcgagggg ctgaatgtac tcatgtgcta gctcaggtct ctcttctctt tcttataaaa  
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6841 cattgtgatc caattacctc ttaaagcccc acctctcaat actgccacat tggggattaa  
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6961 caaattatga agcaggagag aaaaaatgta tgagaaaaaa ataaataaaa ggcacacaga  
7021 ttggaaagga aaattatata tcaccccaag ttttttgag agaaagtagt aaaaatgggt  
7081 atattttgtt tagaaagtaa tgcaaatata aaccacaatg acatattatt acatgcagct  
7141 ataagcgtat acagaataaa aaatagtgtat gatgctaagt aaatataaat gaacaagggt  
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7261 aatgatata ggcactgtat aaaaatgttt ggcagcatcc tatgaaacaa aatcgtcatt  
7321 tgccttataa tccaacaatt gtgctcttag acattcatcc ttgataaatg aaaactacgt  
7381 gcacacaaaa atatgtacat gaatgttcac agagattttt tcatgactgc caaaaactgg  
7441 aaacagatgt gcttcagttg gtaaaatctg tgatatatca tgtcagggaa tactacagag  
7501 caataaaaaa gaacaaacta gtgataccca caagttaggt ggtatctccg ggtattatga  
7561 tgagtgaata agccagttct tcataaagaa actgtggtac atttataaaa tagaatatta  
7621 tccagtata aaaagaaata agctatcaag ccatgaaaag aaatggagaa accttcaaag  
7681 tcatattgtt gagtgaagaa tggggacgcc aatctgaaaa ggcttcacac tgtatgatcc  
7741 caactatgac attttgaaaa aggcaaaagct atggagacaa taaaaagatc agtggttgtt  
7801 aggggtttgg agggaaggag aaatggctag gcagagcaca ggctactttt aaagcagtgta  
7861 aatattaat atatgatgat ggggtgcatt atacatttgt caaaacctgt aaaacatata  
7921 acacaaataa tgagccctaa tattctgtac acttaagatc ataatagtga ttcaccaact  
7981 ataacaaaca caccacacta atgcaagata ttaacaatag ggaactggg gtggagaaca  
8041 aaggggtgta taagtctctg tactttctgc tagtttttct gtaaacctaa atggctcata  
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8161 tttacataat attcttgaaa tgacaaaatt ataggcatgg agagcagaga agtgggtgcc  
8221 agaatttaga gagattgggt gatgatgagg tatgtatggg gagaaagggt accttgggta  
8281 tgaagaata gcagcagaat ccttgggtgg atgaacttat ttgtgtctt aactgtgtg  
8341 gtgggtgatg gaatctatgc aaatgataaa attgcataaa acttcacaca tatgcaagca  
8401 cacacactgt ggcacataaa acttgtgaaa tctgaacaag gtgagtgcac tgtattaatg  
8461 tcaattttct gattgtaata ctgtactgtg gttatggaag acattaccac tgggagaagc  
8521 ttgttgaaag gtacacagga tctctctgta tttactctta cagtttctaa tgaatttta  
8581 attatctcaa aataaaaaaa gaatttaaat caatttaag ttctcagtag ttgttctca  
8641 taatatttaa agcagggtcat agtttttaatt attgtctaatt ttgtttcct ttcagtctat  
8701 gcatattgat gctactttat atacggaaag tgatgttcac gtgagtatac ttttttcaa  
8761 aattgctatt tgtcttgtaa ttaaagtttt taaaagtata tttttgtaac aactaaata  
8821 tggtagtttt aaaatctaac ttttgggtgt tttctataat atagggtcca tgagttttat  
8881 tagtgattat tgagatggga cttggggaca gatagctaca tcaatgctat tttgtaatg  
8941 gtgccaaatc aaaatattaa aagagtcttt tccatcaatg tcaacaaga tacattatac  
9001 gtttttgtag tgcagttgca tcatgggtgca attagatgca aaaatcagat taactgtttc  
9061 aatttaagag tagccaatat atcagttatt tccaatgctg taatgtatca ccatctgcaa  
9121 tcataatttc cataaattgc ttaaaatcat tcatgttctg cattttacat gattctctac  
9181 atttgcaga aaaagattct aattattctc tatgtgagaa aggaacata acccatgaaa  
9241 cttattagaa ctgaaaaatg gtcttgaact tgtttcatta ataccctgac atttcttaag  
9301 gaatgtagga tttgtcatgt tgggtgggtg tcttcccttc agtattgtta ctaaaaccaa  
9361 gaaatgaatc cccaacttca cgtcagggaa aacaaactct atgtcctctc tccattattc  
9421 ctcaattaga acttctctta catagatgac tttctaagca ttggaagaa accatagtca  
9481 gaaactgaa aaaagagata ttcactaac aattgggtca tgcgtgctga caaagaatt  
9541 gtctccctcc tctggcttca gcatggattc tgtttttctt tgcatttttt gtaaaatgga  
9601 aagtagtcaa ttagccacca aattcagcat cctgaaattg cttttttgca agaagataac  
9661 tttgcaaccc atgggttaga gaaacaacct tagatttttag atttttagatt ttagaagttt  
9721 agatttttaa actgactcca ccaactttta cttgtgttac cttggagatt gctaaccatt  
9781 tctgaagctc atttttatta ttgctgatat ggtgacagta ttgtctttc aatcctaacg  
9841 agtgactgtt ggttttaagg aatattacca gtgctgggca catgggtgta ttccttcatt  
9901 ttttttatcc attcagtaag catttgtgaa gtgtctgcag gctcccaggt actgtgcaag  
9961 gtatcgagga cacaagtgca aataatggtc aaatccctag atattccttg tttcctttct  
10021 ttaagttatt gttaaagtaa atgttgtgga aaacataatt ttgtggcacc taagagagcc  
10081 ttttctgatt tgatctgcct gtaagtggac actagtctct ctttgatttt tctaataaat  
10141 ttcttggaa tacttctctc cctctggaac tttggaactt gaaagaacag tataattagc  
10201 agctaccact atttaaaatg ttaacaacac aatttgattc taaaaattct tacaataaaa  
10261 ctgtctatat tgatgttttc agactctaag gccagtatta ttaccctttc cacaggggaa  
10321 atgtgctcgg tgagaaaaac tggccactat ttctgcattt tctagtttca tgttctctg  
10381 tacaatattg ccatccttct tgattgtgtt ttgttgggtt gttttgggtt ttattttaaa  
10441 gccaaaagaa aaaaaattaa gctgctcct atgtaaaatt tcttaaggat attgtgtatc  
10501 tttataaaat atttgattg actttttgaa aatcaaaatt acatcagtat gaaaattaat  
10561 aatcagaaaa aagtaattgt tctttataac ttttattttt agcccagttg caaagtaaca  
10621 gcaatgaagt gctttctctt ggagttacaa gttatttcac ttgagtcagg agatgcaagt  
10681 attcatgata cagttagaaa tctgatcatc ctgacaaaca acagtttgtc tctaattggg  
10741 gtgagttttc caacagttgc ttagagttgc atcttatgtt ttgggcctga tttggagaag  
10801 tcattcatgg acaagcagat cctcctaagg ggcaatcagg agaaggagtc ctgttccagt  
10861 ggagtggtgt gcaaaagtgg caccatctcc agcatgcaca caatgctaaa ctgttcaatg  
10921 attgattcag tagacaaaca tttacagaat aatgccaggt agtgtgcttc agtgcagaa  
10981 ttatagttgc aaaccagaca gacaggtcac tgacctcaag gtgtttattg tcagggtcag  
11041 tggatagaca ttaatctaatt tacatactca aatgtctaac atcaataata gtaactcaca  
11101 tttattgagt tattactgta tgccagacac tattctttga gctttaaatt gataattcat  
11161 ttaatcctca tgataaatct gtgagatagt tatctttatt tctgtttgaa tgttgaagaa  
11221 atttagcac tgagagcctg gatcactcgc ttcagttcat acagctagta aaatgggag  
11281 ccacaactct taccagagca gtctgtctgc agagtctgtt atctcatgag aagataaatg  
11341 ctttaaaaag ataacaatga aaatattaat gattcgagta taatctggga catcccaggc  
11401 aacttgagca gtagagggtt ccaggagagc aaattctagg tactcgtatg ataggctggg  
11461 gaatcagctg tgcaatggcc ctgaagtgca aagaattagg gctttcatgg caaaacacca  
11521 gtggccaaag caaggtagag agaaagcagt tttgcaacaa agaggcataa tcaaattagt  
11581 tcatttcata aatacttttt agccctcagg agacagtatg aaaaaatacc cataatccct  
11641 gctgttaaag agggaggaaa cagaaataaa ccaagcactc agcaaatgag taataagtta  
11701 gttatttatg aagtccagtg gtgaaaaagg acacagggtg ggggcactgg ggctccagtt  
11761 agggtaggct gagctaataa gctgccattt gacaaagatg tgagagaagt agccttaagg  
11821 gtactaggg acatatgttt aggcagagac aactgaaagt gcaaaggccc taagcttgtg  
11881 tgggtggaca ccttgacttt tctctaaaaa tacaagactg ctttaggtct ttgcttcagt  
11941 gtcaccttct cagtatttta cctatttaca gttgcaatcc cttccctatc tgagcactcc  
12001 ctgtcccttt ctctgcgtgt cccatatctg gaatatgata tattttatgt aatgggtatt  
12061 gtctgttttt ccctactaga atgtcagctt aaaatggaca agtgtttttg ttttttatta  
12121 gtactatate caaattccca gaacagtgtc tcatatatat taaatacttt acatattgat  
12181 gaaatgaatt tattaagggtt tataatactc ttatgatgtt atctccatct tattgggtga  
12241 aagagtgaag cacgcaacag gtaactcatg gcaaaataaa tgatgagctc tttaatgtga  
12301 atgttgatag tcatcctcat catgacagag tgtgacatac gtgctggaat gcgtgggag  
12361 gactgcacag tcagaagacc tggatgggaa gaatttcagt tgattatgtc agttgagatg  
12421 agtcaatate tctgtcttcc tatctgacat gattattttc aggatcaaat aggcagcat  
12481 tatatgaaat atgacagtgc ttggcataga ggatgtgctt gataaatgtc gctgattctg  
12541 aattccaaat agttaatgga tataaaatct aatttttatt tttgtggca cagccttcat  
12601 ggttcagatg atctctaaaa agtttattct taattgctac atttggaaac tctcagttat

12661 ccatgagact gtgtttgaag tacaacaatt tgtggtattc acctaaatgg ctcagttcaa  
12721 ccaatgggtg attacagtgt gtcaggccct gtgctaaatg ctagggaac aaacatactg  
12781 gctctgacct tctggcagag agcttagaga atagtattac agtataaaaa gagtaaaact  
12841 tcataatatg aatagaatac atgacatatt gtgagagagg tctaaataag gggttctgag  
12901 atgtaaagat gggacattga gtccagccct aggagccag gggttcagag aagccctccct  
12961 aaaagagtac ctgaataatc ttaagtgcga gtagcagcag ctaaaatagg aatgaatgta  
13021 acagagagaa aagcaaaggc agagaggcat ctaatagat gctgtgcat gcaaggaaaag  
13081 ccagatgctc actcagtgtt tctagggccat aacattgagg caagggggat atgtgaaata  
13141 aataggttag gaacagctca tgaagagcct gtgtgctatg cagggaggca tggctcttat  
13201 gctagaagca gatgatagga aaccattgaa gggctcaaag caggaaactcc gtggtctgat  
13261 agacacagct tatttttctc aatgtcctta acccattatt ggaaaaataa acatatatca  
13321 aatctccctg ttctcttccc tcgtagtctt tcctaataag ctatttattt gctaaagctt  
13381 tcatacttca agaccctacc atattggtta aacgatatga tattcccatc cccatgaatg  
13441 tatatttaaa ttaattataa attgccaatt taatctctct ctatattttg cagaatgtaa  
13501 cagaatctgg atgcaaagaa tgtgaggaaac tggaggaaaa aaatattaaa gaatttttgc  
13561 agagtgttgc acatattgtc caaatgttca tcaacacttc ttgattgcaa ttgattcttt  
13621 ttaaagtgtt tctgttatta acaaacatca ctctgctgct tagacataac aaaacactcg  
13681 gcatttcaaa tgtgctgtca aaacaagttt ttctgtcaag aagatgatca gaccttgat  
13741 cagatgaact cttagaaatg aaggcagaaa aatgtcattg agtaatatag tgactatgaa  
13801 cttctctcag acttacttta ctcatTTTTT taatttatta ttgaaattgt acatatttgt  
13861 ggaataatgt aaaatgttga ataaaaatat gtacaagtgt tgttttttaa gttgactga  
13921 tattttacct cttattgcaa aatagcattt gtttaagggt gatagtcaaa ttatgtattg  
13981 gtggggctgg gtaccaatgc tgcaggctca cagctatgct ggtaggctcc tggcagtggt  
14041 gaaccactga ctactggctc tcattgactt ccttactaag catagcaaac agaggaaagaa  
14101 tttgttatca gtaagaaaaa gaagaactat atgtgaatcc tcttctttat actgtaattt  
14161 agttattgat gtataaagca actgttatga aataaagaaa ttgcaataac tggcatataa  
14221 tgtccatcag taaatcttgg tgggtgtggc aataataaac ttctactgat agtgagaatg  
14281 gtgtgcaagc ttgtccaatc acggattgca ggccacatgc ggcccaggac aactttgaat  
14341 gtggcccaac acaaattcat aaactttcat acatctcgtt tttagctcat cagctatcat  
14401 tagcggtagt gtattttaaag tgtggcccaa gacaattctt cttattccaa tgtggcccag  
14461 ggaatcaaaa agattggatg cccctgggtat agaaaactaa tagtgacagt gttcatattt  
14521 catgctttcc caaatacagg tattttattt tcacattctt tttgccatgt ttatataata  
14581 ataaagaaaa accctgttga tttgttggag ccattgttat ctgacagaaa ataattgttt  
14641 atattttttg cactacactg tctaaaaatta gcaagctctc ttctaattgga actgtaagaa  
14701 agatgaaata tttttgtttt attataaatt tatttcacct taattctggt aatactcaat  
14761 gatgactgt ggggtgggaa atgatctctt aagaatttga tttctttcta ttccatagta  
14821 caaactcggt ctctgttgaa acattctctt atcacccag tggcctatcc atgtacatgt  
14881 gttcttattg ctctagtcaa acggtgctta taaatatctt tcagaaagct taggagaaat  
14941 ctgtatccta tttgacttcc aataatca  
1 cggattggga tgggacctac ttgattcact tctgggaaat caaggatcta cgtaccatgg  
61 attttcaggt gcagatttct agcttctctc taatcagtgc ctcatgata atgtctagag  
121 ccaactgggt gaatgtaata agtgatttga aaaaaattga agatcttatt caatctatgc  
181 atattgatgc tactttatat acggaaagtg atgttcaccc cagttgcaaa gtaacagcaa  
241 tgaagtgtct tctcttggag ttacaagtta tttcacttga gtccggagat gcaagtattc  
301 atgatacagt agaaaatctg atcatcctag caaacaacag tttgtcttct aatgggaatg  
361 taacagaatc tggatgcaaa gaatgtgagg aactggagga aaaaaatatt aaagaatttt  
421 tgcagagttt tgtacatatt gtccaaatgt tcatcaacac ttcttgattg caattgattc  
481 ctcgag

## (2) INFORMATION FOR SEQ ID NO:98:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1610 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

1 cccagagcag cgctcgccac ctccccccgg cctgggcagc gctcgcccgg ggagtccagc  
61 ggtgtctctg ggagctgccg ccatggcccc gggcgggcg cgcggtgcc ggacctcgg  
121 tctccggcg ctgctactgc tgtgtctgct ccggccgccc gcgacgccc gcatcacgtg  
181 cctccccccc atgtccgtgg aacacgcaga catctgggtc aagagctaca gcttgactc  
241 caggagcggg tacatttcta actctgtttt caagcgtaaa gccggcagct ccagctgac  
301 ggagtgcgtg ttgaacaagg ccacgaatgt cgccactgg acaaccccca gtctcaaatg  
361 cattagagac cctgccctgg ttcaccaaag gccagcgcca ccctccacag taacgacggc  
421 aggggtgacc ccacagccag agagcctctc cccttctgga aaagagcccg cagttcattc  
481 tcccagctca aacaacacag cgccacaac agcagctatt gtcccgggt cccagctgat  
541 gcttcaaaa tcaccttcca caggaaaccac agagataagc agtcatgagt cctccccagg  
601 cccccctct cagacaacag ccaagaactg ggaactcaca gcatccgccc cccaccagcc  
661 gccaggtgtg tatccacagg gccacagcga caccactgtg gctatctcca cgtccactgt  
721 cctgtctgtg gggctgagcg ctgtgtctct cctggcatgc tacctcaagt caaggcaaac  
781 tcccccgctg gccagcgttg aaatggaagc catggaggct ctgccggtga cttgggggac  
841 cagcagcaga gatgaagact tggaaaactg ctctcaccac ctatgaaact cggggaaacc  
901 agcccagcta agtccggagt gaaggagcct ctctgcttta gctaaagacg actgagaaga  
961 ggtgcaagga agcgggctcc agggagcaagc tcaccaggcc tctcagaagt cccagcagga  
1021 tctcacggac tgcggggtcg gcgcctcctg cgcgaggagg caggttctcc gcattcccat  
1081 gggcaccacc tgcctgctgt tcgtgccttg gaccagggc ccagcttccc aggagagacc

1141 aaaggcttct gagcaggatt tttatttcat tacagtgtga gctgcctgga atacatgttg  
1201 taatgaaata aaaaccctgc cccgaattct ccgtccctca tcctaacttg cagttcacag  
1261 agaaaagtga cataccctga gctctctgtc aattacaagg ctctctctgg cgtgggagac  
1321 gtctacaggg aagacaccag cgtttgggct tctaaccacc ctgtctccag ctgtctgca  
1381 cacatggaca gggacctggg aaaggtggga gagatgctga gcccagcgaa tcctctccat  
1441 tgaaggattc aggaagaaga aaactcaact cagtgccatt ttacgaatat atgcgtttat  
1501 atttatactt ccttgtctat tatatctata cattatatat tattgtatt ttgacattgt  
1561 acctgtata aacaaaataa aacatctatt ttcaatattt ttaaaatgca

## (2) INFORMATION FOR SEQ ID NO:99:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 393 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

1 atgcctgacc tcaactcctc cactgactct gcagcctcag cctctgcagc cagtgtatgtt  
61 tctgtagaat ctacagcaga gcccacagtc tgcacggtga cactggagaa gatgtcggca  
121 gggctgggct tcagcctgga aggagggag ggctccctac acggagacaa gccctcacc  
181 attaacagga ttttcaaagg agcagcctca gaacaaagt agacagtcca gcctggagat  
241 gaaatcttgc agctgggtgg cactgccatg cagggcctca cacggtttga agcctggaac  
301 atcatcaagg cactgcctga tggacctgtc acgattgtca tcaggagaaa aagcctccag  
361 tccaaggaaa ccacagctgc tggagactcc tag

## (2) INFORMATION FOR SEQ ID NO:100:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3175 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

1 tgcttaaaaa aacacaacag gattttcgaa gaatcctttc ttgaaaaa aacaaaaaaa  
61 ccaaaacaaa acgtactttc tccccactag tttacaccac aggaagcgag agagctgctg  
121 ccaactgctg taccacagga agacacagca gggagaagcc ctagtgcctc tgccggtctg  
181 ccaggacctg gtatcggccc acagaccaag tcctccacag agggcgagcc aggtggaga  
241 agagccagcc cagtgaacca aacatccccg ataaaaacac cactgcttaa gaggcaggct  
301 cggatggact atagctttga taccacagcc gaagaccctt gggtaggat ttctgactgc  
361 atcaaaaaat tatttagccc catcatgagt gagaacatg gccacatgcc tctacagccc  
421 aatgccagcc tgaatgaaga agaagggaca cagggccacc cagatgggac cccaccaaa  
481 ctggacaccg ccaatggcac tcccaaagtt tacaagtcag cagacagcag cactgtgaag  
541 aaaggtcctc ctgtggctcc caagccagcc tggtttcgcc aaagcttgaa aggtttgagg  
601 aatcgtgctt cagagccaag agggctccct gatcctgcct tgtccaacca gccagcacct  
661 gcttccaggg agcactagg atcacacatc cgggctcct cctcctcctc ctccatcagg  
721 cagagaatca gctcctttga aacctttggc tcctctcaac tgctgacaa aggagcccag  
781 agactgagcc tccagccctc ctctggggag gcagcaaac ctcttgggaa gcatgaggaa  
841 ggacggtttt ctggactctt ggggcgaggg gctgcacca ctcttgtagc ccagcagcct  
901 gagcaagtag tgtcctcggg gtccccctga gcctccgagg ccagagacc aggtgtgtct  
961 gactccccct cccaggggag gcagcccaat cagaaaaact tcccccttg cccggaccgg  
1021 ctccctaaggc tgctgtcaac acaggctgag gaatctcaag gccagtgct caagatgcct  
1081 agccagcgag cacggagctt cccctgacc aggtccagt cctgtgagac gaagctactt  
1141 gacgaaaaga ccagcaaact ctattctatc agcagccaag tgtcatcggc tgtcatgaaa  
1201 tccttgcgtg gccttccatc ttctatctcc tgtgcccaga ctccctgcat cccaaggca  
1261 ggggcatctc caacatcatc atccaacgaa gactcagctg caaatgggtc tgtgaaaaa  
1321 tctgccttgg acacggggtt ctgctcaac ctttcagagc tgagagaata tacagagggg  
1381 ctacaggaag ccaaggaaga cgatgatggg gaccacagtt cccttcagtc tggtcagtcc  
1441 gttatctccc tgctgagctc agaagaatta aaaaaactca tcgaggagggt gaaggttctg  
1501 gatgaagcaa cattaaagca attagacggc atccatgtca ccattttaca caaggaggaa  
1561 ggtgctggct ttgggttcag cttggcagga ggagcagatc tagaaaaaa ggtgattacg  
1621 gttcacagag tgtttccaaa tgggctggcc tcccaggaag ggactattca gaagggcaat  
1681 gaggttcttt ccatcaacgg caagtctctc aaggggacca cgcaccatga tgcttggcc  
1741 atcctccgcc aagctcgaga gcccaggcaa gctgtgattg tcacaaggaa gctgactcca  
1801 gagggcatgc cggacctcaa ctccctcagt gactctgag cctcagcctc tgcagccagt  
1861 gatgtttctg tagaatctac agcagaggcc acagtgtgca cgggtgacct ggagaagatg  
1921 tcggcagggc tgggcttcag cctggaagga gggaagggct ccctacacgg agacaagcct  
1981 ctaccattta acaggatttt caaaggagca gcctcagaac aaagtggagac agtccagcct  
2041 ggagatgaaa tcttgagctt ggggtggcact gccatgcagg gcctcacagc gtttgaagcc  
2101 ttggaacatca tcaaggcact gcctgatgga cctgtcacga ttgtcatcag gagaaaaagc  
2161 ctccagtcga aggaaccac agctgctgga gactcctagg caggacatgc tgaagccaaa  
2221 gccataaaca cacagctaac acacagctcc cataaccgct gattctcagg gtctctgctg  
2281 ccgccccacc cagatggggg aaagcacagg tgggcttccc agtggctgct gccaggccc  
2341 agaccttcta ggacgccacc cagcaaaagg ttgttcctaa aataaggggag gactcacact  
2401 ggggcagctg atacaaattg cagactgtgt aaaaagagag cttaagtata atattgtggt  
2461 gccacaaata aaatggattt attagaattc catatgacat tcatgctgg cttcgcaaaa  
2521 tgtttcaagt actgtaactg tgtcatgatt ccccccaaa cagtgcattt ttttttctc  
2581 atgaatctgc aatgtgggca gagattggaa tgggcagctc atctctgtcc cacttggcat

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2641 cagctggcgt catgcaaagt catgcaaagg ctgggaccac ctgagatcat tcaactatag
2701 atctggccgt tgatgttggc tgggaactca cctggggctg ctggcctgaa tgcttatagg
2761 tggcctctcc ttgtggcctg ggctcctcac aacatgggtg ctggattccc aggatgagca
2821 tcccaggatc gcaagagcca cgtagaagct gcatcttgtt tatacctttg ccttggaaagt
2881 tgcatggcat cacctccacc atactccatc agttagagct gacacaaacc tgcctgggtt
2941 taaggggaga ggaatatatt ctgggggtcat ttatgaaaaa tacagtttgt cacatgaaac
3001 atttgcaaaa ttgtttttgg ttggattgga gaagtaatcc tagggaaggg tgggtggacc
3061 agtaaataga ggagtacagg tgaagcacca agctcaaagc gtggacaggt gtgccgacag
3121 aaggaaaccag cgtgtatatg agggatatcaa ataaaattgc tactacttac ctacc
```

## (2) INFORMATION FOR SEQ ID NO:101:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3568 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

```
1 atgcctgacc tcaactctc cactgactct gcagcctcag cctctgcagc cagtgtatgtt
  61 tctgtagaat ctacagcaga ggccacagtc tgcacggtga cactggagaa gatgtcggca
 121 gggctgggct tcagcctgga aggagggaa ggctccctac acggagacaa gccctcacc
 181 attaacagga ttttcaaagg agcagcctca gaacaaagt agacagtcca gcctggagat
 241 gaaatcttgc agctgggtgg cactgccatg cagggcctca cacggtttga agcctgaaac
 301 atcatcaagg cactgcctga tggacctgtc acgattgtca tcaggagaaa aagcctccag
 361 tccaaggaaa ccacagctgc tggagactcc tag
1 tgcttaaaaa aacacaacag gattttcgaa gaatccttc ttagaaaaca aacaaaaaaa
  61 ccaaacaaaa acgtactttc tccccactag ttacaccac aggaagcgag agagctgctg
 121 ccactgtctg taccacagga agacacagca gggagaagcc ctagtgcctc tgccggctgc
 181 ccaggacctg gtatcgggcc acagaccaag tcctccacag agggcgagcc aggggtggaga
 241 agagccagcc cagtgaccca aacatccccg ataaaacacc cactgtctaa gaggcaggct
 301 cggtatggact atagctttga taccacagcc gaagaccctt gggttaggat ttctgactgc
 361 atcaaaaact tatttagccc catcatgagt gagaaccatg gccacatgcc tctacagccc
 421 aatgccagcc tgaatgaaga agaagggaca caggggcacc cagatgggac ccaccaaag
 481 ctggacaccg ccaatggcac tcccaaagtt tacaagtcag cagacagcag cactgtgaag
 541 aaaggtcctc ctgtggctcc caagccagcc tggtttcgcc aaagcttgaa aggtttgagg
 601 aatcgtgctt cagagccaag agggctcctt gatcctgcct tgtccacca gccagcact
 661 gcttccaggg agcacctagg atcacacatc cgggcctcct cctcctcctc ctccatcagg
 721 cagagaatca gctcctttga aacctttggc tcctctcaac tgccctgaca aggagccag
 781 agactgagcc tccagccctc ctctggggag gcagcaaaac ctcttgggaa gcatgaggaa
 841 ggacggtttt ctggactctt ggggagagg gctgcacca ctcttgtgcc ccagcagcct
 901 gagcaagtac tgtcctcggg gtccccctga ccctccgagg ccagagaccc aggtgtgtct
 961 ggtgcccctc cccagggcgc gcagcccaat cagaaaactt tcccccttg cccggaccgc
1021 ctccctaaggc tgtgttcaac acaggctgag gaatctcaag gccagtgct caagatgcct
1081 agccagcgag cacggagctt cccctgacc aggtcccagt cctgtgagac gaagctactt
1141 gacgaaaaga ccagcaaaact ctattctatc agcagccaag tgtcatcgcc tgtcatgaaa
1201 tccctgtgtg gccttccatc ttctatctcc tgtgcccaga ctccctgcac cccaaggca
1261 ggggactctc caacatcatc atccaacgaa gactcagctg caaatggttc tgtgaaaca
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1381 ctacaggaag ccaaggaaga cgatgatggg gaccacagtt ccttcagtc tggtcagtcc
1441 gttatctccc tgtgagctc agaagaatta aaaaaactca tcgaggaggt gaaggttctg
1501 gatgaagcaa cattaaagca attagacggc atccatgtca ccatttaca caaggaggaa
1561 ggtgtctgtc ttgggttcag cttggcagga cttggcagga tagaaaaaca ggtgattacg
1621 gttcacagag tgtttccaaa tgggtctggc tcccaggaag ggactattca gaagggaat
1681 gaggttcttt ccatcaacgg caagtctctc aaggggacca cgcaccatga tgccttggcc
1741 atcctccgcc aagctcgaga gccaggcaa gctgtgattg tcacaaggaa gctgactcca
1801 gaggccatgc ccgacctcaa ctccctcact gactctgcag cctcagcctc tgcagccagt
1861 gatgtttctg tagaatctac agcagagccc acagtctgca cggtgacact ggagaagatg
1921 tcggcagggc tgggtctcag cctggaagga ggggaagggt ccctacacgg agacaagcct
1981 ctaccatta acaggatttt caaaggagca gcctcagaac aaagtgagac agtccagcct
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2101 tggaaacata tcaaggcact gcctgatgga cctgtcacga ttgtcatcag gagaaaaagc
2161 ctccagtcga aggaaccac agctgctgga gactcctagc caggacatgc tgaagccaaa
2221 gccataataa cacagctaac acacagctcc cataaccgct gattctcagg gtctctgctg
2281 ccgccccacc cagatggggg aaagcacagg tgggtctccc agtggctgct gccaggccc
2341 agaccttcta ggacgccacc cagcaaaagg ttgttcctaa aataagggca gagtcacact
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2521 tgtttcaagt actgtaactg tgtcatgatt ccccccaaa cagtgcattt tatttttctc
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2641 cagctggcgt catgcaaagt catgcaaagg ctgggaccac ctgagatcat tcaactatag
2701 atctggccgt tgatgttggc tgggaactca cctggggctg ctggcctgaa tgcttatagg
2761 tggcctctcc ttgtggcctg ggctcctcac aacatgggtg ctggattccc aggatgagca
2821 tcccaggatc gcaagagcca cgtagaagct gcatcttgtt tatacctttg ccttggaaagt
2881 tgcatggcat cacctccacc atactccatc agttagagct gacacaaacc tgcctgggtt
2941 taaggggaga ggaatatatt ctgggggtcat ttatgaaaaa tacagtttgt cacatgaaac
3001 atttgcaaaa ttgtttttgg ttggattgga gaagtaatcc tagggaaggg tgggtggagcc
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3061 agtaaataga ggagtacagg tgaagcacca agctcaaagc gtggacaggt gtgccgacag  
3121 aaggaaccag cgtgtatatg agggatcaaa ataaaattgc tactacttac ctacc

## (2) INFORMATION FOR SEQ ID NO:102:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9203 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

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61 cctgatgaaa tacagtgaag gctgatgctt attaaactgtg tttcccaaat ccagagctct  
121 aaaaagggttc tgcatacagt cattcattca atgcttaacg actgagcatt aattccatgc  
181 taagtactga actcagcact aggaataaca aggcgacctt gaggcatac ctctctctaa  
241 agatgcatag agcctcattg gaatgatcag ccgtgtctcc agagagctac aaggcagttt  
301 tcaattggta aatgccctga gactgatggg cttgtggcat gtgtaagggt tagacagacc  
361 tgggacctag acatgacacc actcctgacg aattatgtga gtgtgggtgt ttcacaacca  
421 caatgagatg caatgcctgc acttgtaaca tggaaatagt gatggcatgc cccgagatt  
481 gctgtgagaa gtcagcggca gagacatgca acattctcag cacagtgtt gccatgtagt  
541 aagggcctag tcagtgtcag tgattcctt caatattcct aagatgcaga taagggaaca  
601 gccagagga gggggagcac tccagaggg aggaatgcg tgagacttcc ttcagcaggg  
661 tagcactgga gctgggtgtt aaggagtga tgagcttgg gcttatggat ttaacagagg  
721 aaaccaagaa aagaggaggc ggtgttgca gaacagtga cagttgtga tttttattt  
781 gctctctggt ctgcttggga acattttgt ggcaaagaca gcatgaagga tagcgaagaa  
841 ttaatactga agagataggc cagggcaggt tatgaaggat tttgaatacc gggctaagaa  
901 atgtgggctt aatttcaaa acattatgga cactcctaaa atgttacgtt gtagataagg  
961 gaaaagtatt cttccagaag attaaattgg ggctgggcac ggtggctcac gcctgtgatc  
1021 ccagcacttt gggaggcgaa gtgggcaggt cactgaggt caggagttt agatcagcct  
1081 ggccaaactg gtgaagcccc atctctactg aaaaaaaaaa ttagccgggc atggtggtg  
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1381 acaagcatgc cttcacctcc ctgcaaagac cacagaccac tgagctcaa agggggtt  
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1561 cccaggaaac acgtcctcca ctcaaatgga aagaggaccc tctgacaaca tctgtgggac  
1621 ccaacagcac tggtcaccac aagccacaaa atgttaacaa agtcagttt caattgttag  
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1741 gtggcacaac ccacaagtca acagtggctt gggaaactaga catttgagta gagtggggt  
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2341 ggggtcaccc aagagtgcag gagctaagta aaatgtaatt tgtgggacct catgtggaca  
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8881 agagagtgtc aggcagtttc ctggctgaac acgccagccc aataacttaa gagagcaact
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9121 acctgctgat gtggggactg ctcacgttca tcatggtgcc tggctgccag gcaggtaaag
9181 gcctgtgggt gccccggaa ttc

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## (2) INFORMATION FOR SEQ ID NO:103:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2335 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

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421 caatgcacaa gctctgccac tcggaacaca acgaaacaag tgacacctca acctgaagaa
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541 cttccaggtc actgcaggga acctccacca tgggaaaatg aagccacaga gagaatttat
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1861 acacacaagg tgcaaatcaa tgcgtacgtt tcctgagaag tgtctaaaaa caccaaaaag
1921 ggatccgtac attcaatgtt tatgcaagga aggaagaaaa gaagggaagt gaaggggaga
1981 aggatggag gtcacactgg tagaacgtta ccacggaaaa gagcgcatca ggcctggcac
2041 ggtggctcag gcctataacc ccagctccct aggagaccaa ggcgggagca tctcttgagg
2101 ccaggagttt gagaccagcc tgggcagcat agcaagacac atccctacaa aaaattagaa
2161 attggctgga tgtggtggca tacgcctgta gtccatagca ctcaggaggc tgaggcagga
2221 ggattgcttg agcccaggag ttcgaggctg cagtcagtca tgatggcacc actgcactcc
2281 agcctgggca acagagcaag atcctgtctt taaggaaaaa aagacaaggg aattc

```

## (2) INFORMATION FOR SEQ ID NO:104:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1092 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

```

1 gaattcatgg aaatgggaag ggcagtgatg gagatgggaa gggcagtggg ggttggaggg
61 gtggggattg ttgttgggta cgaaaacaga attagatcga atgaataaga tctagtattt
121 gatagcataa cagggtgact ttagtcaaca ataatttatt gtacatttaa aaataactaa
181 aagagtatac ttggatttta acacaaaagaa aggataaata cttgagggtg tggatacccc
241 atttaccctg atgtgattat tatacttgt atgcctgtat caaaatagct catgtgcctc

```



301 atgaatatag acacctacca catgccacaa aaattaaaaa ctaaaaaaaa cagtcatctc  
361 tgaatgctaa acggagtaag gggcttcctg gaaggctggg tgaatggga gtctcggaaa  
421 gatggtgtgt tgcaggctgg gaggagggtg agacgctggg gtcacctaga gggacctgct  
481 tgtgtgaagc ctacgtatta gtgggtatgt gtgtgaccgg atggaggcgt cagagggtgt  
541 gggtagcctg tgtgagttgg cgtgggggtg atgtaggagg ggagagaggg agggcctgcg  
601 ttcccttggc tcctgtgtgc agctaggccc ctatttgaca atgtgtgtct gtgtgtgtgt  
661 gtgtgtgtgt gtgtgtgtgt gtgtgccgcc cccagcgtag gaggcagatc tttatctggc  
721 cctgggtgct tgaggagtgt caggctttct cataagcctc gtctccccgc ctctccaccc  
781 caggccttgc ccctctatcc tctgcacagg aagtgggctg gctctgggct tttagtcttt  
841 gcggccccag cagccagagc tcagcagggc cctggagaga tggccacggg cccagcaccg  
901 gggaggactg gagagcgcgc gctgccaccg ccccatgtct cagccagggt atgtccccct  
961 gcctccctcc cggcccctgt ggaccagcca gagggtctgg agtgaaagtc acagagaaga  
1021 ctttcagctc tgactcagtt cccccagcag tttctgcctg aactcccatc ccccaacttt  
1081 gtcttagaat tc

## (2) INFORMATION FOR SEQ ID NO:105:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1451 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

1 gaagagcaag cgccatgtt aagccatcat taccattcac atccctctta ttctgcagc  
61 tggccctgct gggagtggg ctgaacacga caattctgac gccaatggg aatgaagaca  
121 ccacagctga tttcttcctg accactatgc cactgactc ctcagtggt tccactctgc  
181 cctcccccaga ggttcagtgt tttgtgttca atgtcgagta catgaattgc acttggaaaca  
241 gcagctctga gccccagcct accaacctca ctctgcatta ttggtacaag aactcggata  
301 atgataaaagt ccagaagtgc agccactatc tattctctga agaaatcact tctggctgtc  
361 agttgcaaaa aaaggagatc cacctctacc aaacatttgt tgttcagctc caggaccac  
421 gggaaaccag gagacaggcc acacagatgc taaaactgca gaatctggtg atccctggg  
481 ctccagagaa cctaacactt cacaactga gtgaatccca gctagaactg aactggaaca  
541 acagattctt gaaccactgt ttggagcact tgggtcagta cgggactgac tgggaccaca  
601 gctggactga acaatcagtg gattatagac ataagttctc cttgcctagt gtggatgggc  
661 agaaacgcta cagtttctgt gttcggagcc gctttaaccc actctgtgga agtgctcagc  
721 attggagtga atggagccac ccaatccact gggggagcaa tactcaaaa gagaatcctt  
781 tcctgtttgc attggaagcc gtggttatct ctgttggtc catgggattg attatcagcc  
841 ttctctgtgt gtatttctgg ctggaacgga cgatgcccg aattcccacc ctgaagaacc  
901 tagaggatct tgttactgaa taccacggga acttttcggc ctggagtggg gtgtctaagg  
961 gactggctga gactctgcag ccagactaca gtgaacgact ctgcctcgtc agtgagattc  
1021 ccccaaaaagg aggggcccct ggggaggggc ctggggcctc cccatgcaac cagcatagcc  
1081 cctactgggc cccccatgt tacaccctaa agcctgaaac ctgaacccca atccctctgac  
1141 agaagaaacc cagggtcctg tagccctaag tggtaactaa tttcttcat tcaaccaccc  
1201 tgcgtctcat actcacctca cccactgtg gctgatttgg aattttgtgc ccccatgtaa  
1261 gcaccccttc atttggcatt cccacttga gaattaccct tttgccccga acatgttttt  
1321 cttctccctc agtctggccc ttccctttcg caggattctt cctccctccc tcttccctc  
1381 ccttccctct tccatctacc ctccgattgt tcctgaaccg atgagaaata aagtttctgt  
1441 tgataatcat c

## (2) INFORMATION FOR SEQ ID NO:106:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1563 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

1 gagagactgg atggaccac aagggtgaca gccagggcg accgatcttc ccattcccaca  
61 tcctccggcg cgatgccaaa aagaggctga cggcaactgg gccttctgca gagaaagacc  
121 tccgcttcac tggcccggt ggtcccaagg gtcaggaaga tggattcata cctgctgatg  
181 tggggactgc tcacgttcat catggtgcct ggctgccagg cagagctctg tgacgatgac  
241 ccgccagaga tcccacacgc cacattcaaa gccatggcct acaaggaagg aaccatgttg  
301 aactgtgaat gcaagagagg tttccgcaga ataaaaagcg ggtcactcta tatgctctgt  
361 acaggaaaact ctagccactc gtcctgggac aaccaatgtc aatgcacaag ctctgccact  
421 cggaacacaa cgaaacaagt gacacctcaa cctgaagaac agaaagaaag gaaaaccaca  
481 gaaatgcaaa gtccaatgca gccagtggac caagcgagcc ttccagggtg agagaagcct  
541 caggcaagcc ccgaaggccg tcctgagagt gagacttctt gcctcgtcac aacaacagat  
601 tttcaaatc agacagaaat ggctgcaacc atggagacgt ccatatttac aacagagyac  
661 caggtagcag tggccgggct gtgtttctct ctgatcagcg tccctcctct gagtgggctc  
721 acctggcagc ggagacagag gaagagtaga agaacaatct agaaaaccaa aagaacaaga  
781 atttcttggg aagaagccgg gaacagacaa cagaagtcac gaagcccaag tgaaatcaaa  
841 ggtgctaaat ggtcgcccag gagacatccg ttgtgcttgc ctgctttttg gaagctctga  
901 agtcacatca caggacacgg ggcagtggca accttgtctc tatgccagct cagtcccac  
961 agagagcgag cgctaccac ttctaaatag caatttcgcc gttgaagagg aagggcaaaa  
1021 ccactagaac tctccatctt attttcatgt atatgtgttc attaaagcat gaatgggatg  
1081 gaactctctc caccctatat gtagtataaa gaaaagtagg tttacattca tctcattcca  
1141 acttcccagt tcaggagtcc caaggaaagc cccagcacta acgtaaatac acaacacaca

```

1201 cactctaccc tatacaactg gacattgtct gcgtggttcc tttctcagcc gcttctgact
1261 gctgattctc ccgttcacgt tgcctaataa acatccttca agaactctgg gctgctaccc
1321 agaaatcatt ttacccttgg ctcaatcctc taagctaacc cccttccact ggccttcag
1381 tcttgaattt ctaaaaaaca gaggccatgg cagaataatc tttgggtaac ttcaaacgg
1441 ggcagccaaa cccatgaggc aatgtcagga acagaaggat gaatgaggtc ccaggcagag
1501 aatcatactt agcaaagttt tacctgtgcg ttactaattg gcctctttaa gagttaagtt
1561 ctt

```

## (2) INFORMATION FOR SEQ ID NO:107:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 733 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

```

1 gaattctcag gaccttcag ttgcgcgcat ccttctccat tattgaata ttggaggctg
61 cctgaccaga atcttgtcag gactttgtct cttcatccca ggtggtcccg gctgactcct
121 gaggacgtta cagccctgag ggaggagactc agccttatga agtgctgggt gagaccactg
181 ccaagaagtg cttgctcacc ctaccttcaa cggcagggga atctccctct ccttttatgg
241 gcgtagttaa gaaaggattc ataatgaag ttcaatcctt ctcatcaacc ccagcccaca
301 cctccagcaa ttgaacttga aaaaaaaaaa ctggtttgaa aaattaccgc aaactatatt
361 gtcatacaaaa aaaaaaaaaa aaaaacactt cctatatatt agatgagaga agagagtgtt
421 aggcagtttc ctggctgaac acgccagccc aatacttaaa gagagcaact cctgactccg
481 atagagactg gatggaccca caagggtgac agcccaggcg gaccgatctt cccatccac
541 atcctccggc gcgatgcaa aaagaggctg acggcaactg ggccttctgc agagaaagac
601 ctccgcttca ctgcccggcg tgggccaaag ggtcagggaag atggattcat acctgtgat
661 gtggggactg ctcacgttca tcatggtgcc tggctgccag gcaggtaagg gcctgtgggt
721 gcccccgaa ttc

```

## (2) INFORMATION FOR SEQ ID NO:108:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 756 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

```

1 gagctctgtg acgatgacc gccagagatc ccacacgcca cattcaaagc catggcctac
61 aaggaaggaa ccatgttgaa ctgtgaatgc aagagaggtt tccgcagaat aaaaagcggg
121 tcactctata tgctctgtac aggaaactct agccactcgt cctgggacaa ccaatgtcaa
181 tgcacaagct ctgccactcg gaacacaacg aaacaagtga cactcaacc tgaagaacag
241 aaagaaagga aaaccacaga aatgcaaagt ccaatgcagc cagtggacca agcgagcctt
301 ccaggtcact gcaaggaacc tccaccatgg gaaaatgaag ccacagagag aatttatcat
361 ttcgtggtgg ggcagatggt ttattatcag tgcgtccagg gatacagggc tctacacaga
421 ggtcctgtcg agagcgtctg caaaatgacc caggggaaga caagggtggc ccagccccag
481 ctcatatgca caggtgaaat ggagaccagt cagtttccag gtgaagagaa gcctcaggca
541 agccccgaag gccgtcctga gagtggagact tcctgcctcg tcacaacaac agattttcaa
601 atacagacag aaatggctgc aaccatggag acgtccatat ttacaacaga gtaccaggta
661 gcagtgcccg gctgtgtttt cctgtgatac agcgtcctcc tcctgagtgg gctcacctgg
721 cagcagagac agaggaagag tagaagaaca atctag

```

## (2) INFORMATION FOR SEQ ID NO:109:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```

1 gaattctcag gaccttcag ttgcgcgcat ccttctccat tattgaata ttggaggctg
61 cctgaccaga atcttgtcag gactttgtct cttcatccca ggtggtcccg gctgactcct
121 gaggacgtta cagccctgag ggaggactca gcttatgaag tgctgggtga gaccactgcc
181 aagaagtgtc tgctcaccta ccttcaacgg caggggaatc tccctctcct tttatggcg
241 tagctgaaga aaggattcat aaatgaagtt caatccttct catcacccca gcccaacctc
301 cagcaattga acctgaaaaa aaaaactctg tttgaaaaat taccgaaac tatattgtca
361 tcaaaaaaaa aaaaaaaa aaaaacttcc tatatttgag atgagagaag agagtgttag
421 gcagtttctt ggctgaacac gccagcccaa tacttaaaaga gagcaactcc tgactccgat
481 agagactgga tggacccaca agggtgacag ccaggcgga ccgatcttcc catcccat
541 cctccggcgc gatgccaaaa agagggtgac ggcaactggg ccttctgcag agaagacct
601 ccgcttcaact gcccggtcgt gtcccaaggg tcaggaagat ggattcatac cgtctgatgt
661 ggggactgct cacgttcatc atggtgcctg gctgccaggc aggtaagggc c

```

## (2) INFORMATION FOR SEQ ID NO:110:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18200 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

```
1 gaattcatgc cacaactgag tgattttttt ttctcaaac ccaattccac aaagtaaaa
  61 cctgatgaaa tacagtgaag gctgatgctt attaactgtg tttcccaaat ccagagctct
 121 aaaaagggttc tgcatacagt cattcattca atgcttaacg actgagcatt aattccatgc
 181 taagtactga actcagcact aggaataaga aggcgaccta gaggcatatc ctctctctaa
 241 agatgcatag agcctcattg gaatgatcag ccgtgtctcc agagagctac aaggcagttt
 301 tcaattggta aatgccctga gagtgatggg cttgtggcat gtgtaagggt tagacagacc
 361 tgggacctag acatgacacc actcctgacg aattatgtga gtgtgggtgt ttcacaacca
 421 caatgagatg caatgcctgc acttgaaca tggaaatagt gatggcatgc cccgcagatt
 481 gctgtgagaa gtcagcggca gagacatgca acattctcag cacagtgcct gccatgtagt
 541 aagggcctag tcagtgcctg tgattccttt caatattcct aagatgcaga taagggaaca
 601 gccagagga gggggagcac ttccagaggg aggaatgcgg tgagacttcc ttcagcaggg
 661 tagcactgga gctgggtgtt aaggagtgg tgagctttgg gcttatggat ttaacagagg
 721 aaaccaagaa aaggaggagc ggtgttgacg gaacagtga cagttgatga tttttatttt
 781 gttctctggt ctgcttggga acatttttgt ggcaaagaca gcatgaagga tagcgaagaa
 841 ttaatactga agagataggg cagggcaggt tatgaaggat tttgaatacc gggctaagaa
 901 atgtgggctt aatttcaaa acattatgga cactcctaaa atgttacagg gtgataaagg
 961 gaaaagattt cttccagaag attaaattgg ggtggggcac ggtggctcac gcctgtgac
1021 ccagcacttt gggaggcgaa gtgggcagat cacctgaggt caggagtttg agatcagcct
1081 ggccaactgt gtgaagcccc atctctactg aaaaaaaaaa ttagccgggc atggtggtgg
1141 gtgcctgtaa tctcagctac ttgggaggtc gaagcaggag aatcacatga acctgggagg
1201 cagaggttgc agtgagccaa gattgcacca ctgcattcca gtgggcgaca gagcaagact
1261 cagtcaaaaa aaaaaaaga ttaaactgga agcaatgggt aagaatgggt gagtggagag
1321 acacatttga gtgagggag ccagctgaaa agctgtacag acgtctagac aaaatgtgac
1381 acaagcatgc cttcacctcc ctgcaaaagc cacagaccac tgagctccaa aggggggttt
1441 gaatccttgt cctgggcccgc catttgtaac tcatcagtc tggcttgaga gataaactct
1501 attatccatc cctgaactaa aatcatgaca gaagtggcca gggagctttg ctgctatccc
1561 cccaggaaac acgtcctcca ctcaaatgga aagaggaccc tctgacaaca tctgtgggac
1621 ccaacagcac tggtcaccac aagccacaaa atgttaacaa agtcagtttt caattgtag
1681 ggacggagga ctcagttcat gattcataca aaccaactgt tctctcccag tgttttctgg
1741 gtggcacaac ccacaagtca acagtggctt gggaaactaga catttgagta gagtggggtt
1801 atttgattca tagtggattt tggttttcca cgggaccctt gtgcccttgt ctagtagaat
1861 ctggtggaaa ttacaaactg cagaaattca actcagtgcc gcaataacag gatgcactg
1921 tagatttctg agaattagca gcagcattct ttcaatacca gtttgagaga aataaccctg
1981 tttgcatagt gccaactggg gcagaatctg aagtgtcttg cctgcctctc ggccatggga
2041 ggaccgatc tcagcaacat ctatccaacc gccatccact taacaagcaa agatggaagg
2101 ccctcgtgct ccaggctatc ctgcaatggt tcatttgctt ttgatgggat tatcactttg
2161 acagatgtgc ttgcaattaa ctgggggctt tctgcttcca atccaaattc ccacaggtgg
2221 atcactggct cttggggagc aaaaaccctt ctttgtttgt ttttgccttc cccagagcct
2281 gggcagagct cccattcctt ggatcctacg ttgatatgca ctgaattgaa ttatactaaa
2341 ggtgacccc aagagtgcac gagctaagta aaatgtaatt tgtgggacct gatgtggaca
2401 tttcaggtcc atgtgtacaa gataaaggag agaaaatcct gggggacacc acaggcctgg
2461 gaaaatgacc tcctactaag cctaacaaga acatccagta cataaacagc aggtctctctg
2521 caaccgcttc ggtccttcca ctgccacgct cccagaaagc aaagggttat ctctgttcg
2581 gattttggct ctgagaccac agctcagcac atcactcctc tagagaaaag aaagtctaag
2641 atgagagagt gaggtgctt tcagtgtgtg ccagcgtata gtgcagggca ggcctgattg
2701 ctgaacggat ccctgcagac gtgagcgttc acttccccct ttgagggccc atttcttttc
2761 ctctttgagg agactgtgag cgtcctcagt gcagggctat gttttagctt cttggctctc
2821 ctacacaggt ctagcataat tctttgatta attgcagtc acgtttattg atggttatg
2881 tgacagaggt gaaattcttt gatctgggtt tcagcttttc ctttccccca ctccctcctt
2941 tttctttttt tttttttttt ttttttagag cgaggctctg ctctgtggcc ctggctggag
3001 tgacagtgtg caatcatagc tcattgcagc cttgacctcc tggggtcaag cgaacctcaa
3061 cgtcttggcc tcctgagtag ctgggactat aggcattgcg caccacgctc agcttcacct
3121 tttcctttcc ttgtgctccc ctggcagata tgctggtaaa caatgaacca gtcaagagga
3181 agcaacagg aggaaaatgg gagaaacccc attattcgtg gactaaacag gcttccccat
3241 agtctggct cacagaggaa gtcatgctcc atgtttcaaa tgcctcaaa gctcgttcaa
3301 ctccaaaatg catgaagaca aaatgggaat tttactcaag atttttggg gctgttggg
3361 agaagagtta acattgcaaa gcatattgca aactcttata ttcaaatgat tttaaaattt
3421 tcttccaagc tctttattat ttctccagag ctgccctgct ctccccactc tgggtccttt
3481 ctctgccact ctctcagca tgacttctcc ctaatcggcc agcatttctt ttattctata
3541 gagcaagttt tcttgccctg ggcacctctc atttgcatgt tataccacca caccaagtga
3601 gcctcagagc accagtgttt taatccctga aaacagtcct tacgggattc agcacagagg
3661 tctcttggc agcctgtagt ctccagagtg acacgtcctc aacagtcaaa gtgagcaagc
3721 tatggtgccc atcaccaagt ggggtcacc atttccctct gcgttcaatt ctctcctacc
3781 tcttctctta tccatcctt cctccttctt tttttttctt gcattcaatt attcatggtt
3841 attcatttca tacgggcata tgtgccactt ggttctacag gcattttttt ttttgagaca
3901 gacttttggc cttgtcccc aggtggcgt gcagcgggtg gatcttggct cactgcaatc
```

3961 tccacctcct aggttcaagc aagtctctcg ccttagcctc ccaagtagct ggaattacag  
4021 gcatgtgcc acaagcccg caaatttttg tatttttagt agagacaggg tttcaccatg  
4081 ttggccaggc tggctcctaa ctcctgacct caggtagctt gcctgcctcg gcctcccaaa  
4141 gtgctgggat aacaggcggt agccatcggt ctgcggccgt tctatgggca ttgtggaagt  
4201 gaccgttaac aagccccaag ggtaagttaa ggaaaatgaa aggtgattga ttctccacca  
4261 cctctccctt ttttctctct actctttgcc cctgctcccc aatctagact ctaataaaca  
4321 gaaatgattt ttgttgcaag ctgaaaactc gttcttgtgg ttggggctag gggggtggca  
4381 agtcaagctt tagagttgtc tggataataa atgctgtctt caaggactgt ccaacattgt  
4441 aggaacaaga gaacaacca agtgaacaac taactcctgt tcacaaatgc tactgcctct  
4501 ctgccatccc ctaacctcag cctcacacac ttgaatttcg ccaatccatt tgatgagctc  
4561 aaatcagtga attttctcct cgccaaagct cacaatttct gttccccgtt tcttgccca  
4621 catccaggca ttaccaactg cattttccct ttgcctgata ttctggcatc aagctcctt  
4681 gccattccaa tttatttcac ctctcctcag tccttatgat ttcttctctg aagagtattt  
4741 gcgatctct atgcctcaat ctctcctgca caccacacca gctcggcctc atcatcacat  
4801 tacttggtta tgtcccgctt gggtagaca gcttcagtgg ctgaagtcca tagatcttat  
4861 tctgtttttc gaggtccacc tgactctgaa tccagctgac atttctgccc ttagcttcta  
4921 cccctctcta cttctgggta actatggacc acactctgct tcctcaggaa ccactacca  
4981 aggccgtatc catccttcaa ggacaatcag tgggcctttc ctgatcacat cagctcaaca  
5041 acttttccct cctacatttc aattgctctt cttaccataa tcattagtat tcacccact  
5101 gtacgtctag aaagaaagtg gtcttaaac taagggaagg cagtctaggg cagaatttg  
5161 ttgtccgctg ttctgagcag tttcttctag gaagtaccaa acatttctga taatagaatt  
5221 gagcaatttc ctgatgaagt gagactcagc ttgactgtt gaccggctgt cctggatgaa  
5281 cctagttact ttttaacaaa tgttctttc ttgaacttgt tccttctctg aacttaattt  
5341 atcaatgtta tctagataac tttctcctc aaaaaaaaaa aaaaaaaaaa cccttacta  
5401 ggaagaaat ctttgaaccg gacttatttg aaattacctc cttgcagcag gtttgaaaca  
5461 aaactttgaa tttgcctcac aaagaatttg tctgaaactg ctttagtata tgctagttat  
5521 atttgtatgc acatgtggct tcatacatag tggttggaca cccatatgtg ttatgcactt  
5581 tgttaggtga cgtaagtcca cagataaact ggaacatagg gctatcctct agagggccac  
5641 agtttgacac cttaacctga gatccttggg cctttgaaat tcagagtccc cacaaccgt  
5701 ggggtgtgtg gctcacactt gtaatccag tactctgag ggctgaggtg ggaggtatgc  
5761 ttgagtccag gagtctgaga ccagcctggg caacatgaca aaaccccatc tctacaaaaa  
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1 gaattcccc cccccccc cgagagactg gatggaccca caagggtgac agcccaggcg  
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421 caatgcacaa gctctgccac tcggaacaca acgaaacaag tgacacctga acctgaagaa  
481 cagaaagaaa ggaaaaccac agaaatgcaa agtccaatgc agccagtgga ccaagcgagc  
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661 agaggtcctg ctgagagcgt ctgcaaaatg acccacggga agacaagggt gaccagccc  
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841 caaatacaga cagaaatggc tgcaacctg gagacgtcca tatttacaac agagtaccag  
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181 cctcccccaga ggttcagtg tttgtgttca atgtcgagta catgaattgc acttgaaca  
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1201 tgcgtctcat actcacctca cccactgtg gctgatttgg aattttgtgc ccccatgtaa  
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241 ccgcccagaga tcccacagc cacattcaaa gccatggcct acaaggaag aacctgttg  
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361 acaggaaact ctagccactc gtccctggac aaccaatgac aatgcacaag ctctgccact  
421 cggaacacaa cgaacaaggt gacacctcaa cctgaagaac agaaagaaag gaaaaccaca  
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61 cctgaccaga atcttctcag gactttgtc cttcatccca ggtgggtccc gctgactcct  
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601 ctccgcttca ctgccccggc tggccccaa ggtcaggaag atggattcat acctgctgat  
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301 cagcaattga acttgaaaaa aaaaacctgg tttgaaaaat taccgcaaac tatattgtca  
361 tcaaaaaaaa aaaaaaaaaa aaacacttcc tatatttgag atgagagaag agagtgtcag  
421 gcagtttctt ggctgaacac gccagcccaa tacttaaaaga gagcaactcc tgactccgat  
481 agagactgga tggaccacac aggggtgacag cccaggcgga ccgatcttcc catcccat  
541 cctccggcgc gatgcaaaaa agaggctgag ggcaactggg ccttctgcag agaaagacct  
601 ccgttctcact gccccggctg gtcccaaggg tcaggaagat ggattcatc ctgtgatgt  
661 ggggactgct caggttcac atggtgctg gctgccaggc aggttaagggc c

## (2) INFORMATION FOR SEQ ID NO:111:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 544 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

1 aagcttaata taaacaagtt tcttgtcact gccaccacca cgacaaaaa aagctaataca  
61 atcactatat ataatacata tatatactat atataataaa tatataact atatataata  
121 catatataca ctatatataa tacatatata ctatatatac actataact atatatacac  
181 atatatatta tgaatgtata tatatagtat atatagtata tatactatgt atgtatatat  
241 agtatatata gtatatatac tatgtatgat atatagtata tatagtata atactatgta  
301 tgtgtatata tagtatatat agtatatata gtatatatac tatgtatgta tatatatagt  
361 atatatagta tatatactgt gtatgtatat atatagtata tatatactat atatgcatac  
421 atagtatata tgcatatata ctatatatac tatatatatta tatatactat atactatata  
481 tactatatac tgtatatata ctatatatgt atgtatacga tatatatata tactatatat  
541 gtac

## (2) INFORMATION FOR SEQ ID NO:112:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2002 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

1 cagagaagct ctatctcccc tccaggagcc cagctatgaa ctcttctccc acaagcgcc  
61 tcggtccagt tgccttctcc ctggggctgc tctggtgtgt gctgctgcc ttccctgccc  
121 cagtaccccc aggagaagat tccaaagatg tagccgcccc acacagacag ccactcacct  
181 cttcagaacg aattgacaaa caaattcggg acatcctcga cggcatctca gccctgagaa  
241 aggagacatg taacaagagt aacatgtgtg aaagcagcaa agaggcactg gcagaaaaa  
301 acctgaacct tccaaagatg gctgaaaaag atggatgctt ccaatctgga ttcaatgagg  
361 agacttgccct ggtgaaaatc atcactggtc tttggagtt tgaggtatc cttagatacc  
421 tccagaacag atttgagagt agtgaggaa aagccagagc tgtgcagatg agtacaagg  
481 tcctgatcca gttcctgcag aaaaaggcaa agaactctaga tgcaataacc acccctgacc  
541 caaccacaaa tgccagcctg ctgacgaagc tgcaggcaca gaaccagtgg ctgcaggaca  
601 tgacaactca tctcattctg cgcagcttta aggagttcct gcagtcacgc ctgagggctc  
661 ttcggcaaat gtacatggg cacctcagat tgtgtgtgtt aatgggcatt ccttctctg  
721 gtcagaaacc tgtccactgg gcacagaact tatgtgtgtc tctatggaga actaaaagta  
781 tgagcgtagg gacactatct taattatctt taatttatta atatttaaat atgtgaagct  
841 gagttaattt atgtaagtga ttttatatt ttaagaagta ccacttgaaa cattttatgt  
901 attagttttg aaataataat ggaaagtggc tatgcagttt gaatatcctt tgtttcagag  
961 ccagatcatt tcttggaagg tgtacgcta cctcaataa atggctaact tatacatatt  
1021 ttttaagaaa tttttatatt gtatttatat aatgtataaa atggttttta taccaataaa  
1081 tggcatttta aaaaattcag ca

## (2) INFORMATION FOR SEQ ID NO:113:



## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 113 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

```
1 gaattccggg aacgaaagag aagctctatc tcccctccag gagcccagct atgaactcct
  61 tctccacaag cgccttcggt ccagttgcct tctccctggg gctgctcctg gtgttgccctg
 121 ctgccttccc tgccccagta cccccaggag aagattccaa agatgtagcc gccccacaca
 181 gacagccact cacctcttca gaacgaattg acaaacaat tcggtacatc ctgcacggca
 241 tctcagccct gagaaaggag acatgtaaca agagtaacat gtgtgaaagc agcaaagagg
 301 cactggcaga aaacaacctg aaccttccaa agatggctga aaaagatgga tgcttccaat
 361 ctggattcaa tgaggagact tgcctggtga aaatcatcac tggctctttg gagtttgagg
 421 tatacctaga gtacctccag aacagatttg agagtagtga ggaacaagcc agagctgtgc
 481 agatgagtac aaaagtcctg atccagttcc tgcagaaaaa ggcaaagaat ctatagtaa
 541 taaccacccc tgacccaacc acaaatgcc aacctgtgac gaagctgcag gcacagaacc
 601 agtggctgca ggacatgaca actcatctca ttctgcgcag ctttaaggag ttctgcagt
 661 ccagcctgag ggctcttcgg caaatgtagc atgggcacct cagattgttg ttgttaatgg
 721 gcattccttc ttctggctcag aaacctgtcc actgggcaca gaacttatgt tgttctctat
 781 ggagaactaa aagtatgagc gttaggacac tattttaatt atttttaatt tattaatatt
 841 taaatatgtg aagctgagtt aatttatgta agtcatattt atatttttaa gaagtaccac
 901 ttgaaacatt ttatgtatta gttttgaaat aataatggaa agtggctatg cagtttgaat
 961 atcctttgtt tcagagccag atcatttctt ggaaagtgtg ggcttacctc aaataaatgg
1021 ctaacttata catattttta aagaaatatt tatattgtat ttatataatg tataaatgg
1081 ttttatacca ataatggca ttttaaaaaa ttc
```

## (2) INFORMATION FOR SEQ ID NO:114:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3659 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

```
1 aagcttaata taaacaagtt tcttgtcact gccaccacca cgaccaaaaa aagctaataca
  61 atcactatat ataatacata tatatactat atataataaa tatataact atatataata
 121 catatataca ctatatataa tacatatata ctatatatac actataact atatatacac
 181 atatatatta tgaatgtata tatatagtat atatagtata tatactatgt atgtatatat
 241 agtatatata gtatatatac tatgtatgat atatagtata tatagtatat atactatgta
 301 tgtgtatata tagtatatat agtatatata gtatatatac tatgtatgta tatatatagt
 361 atatatagta tatatactgt gtatgtatat atatagtata tatatactat atatgcatac
 421 atagtatata tgcatatata ctatatatac tatatattta tatatactat atactatata
 481 tactatatac tgtatatata ctatatatgt atgtatacga tatatatata tactatatat
 541 gtac
1 cagagaagct ctatctcccc tccaggagcc cagctatgaa ctcttctcc acaagcgct
  61 tcgggtccagt tgccttctcc ctggggctgc tctgtgtgtt gcctgtgcc ttccctgcc
 121 cagtaccccc aggagaagat tccaaagatg tagccgcccc acacagacag cactcacct
 181 cttcagaacg aattgacaaa caaattcggg acatcctcga cggcatctca gccctgagaa
 241 aggagacatg taacaagagt aacatgtgtg aaagcagcaa agaggcactg gcagaaaaa
 301 acctgaacct tccaaagatg gctgaaaaag atggatgctt ccaatctgga ttcaatgagg
 361 agacttgccct ggtgaaaatc atcactggtc ttttgagtt tgaggtatac ctatagtagc
 421 tccagaacag atttgagagt agtgaggaa aagccagagc tgtgcagatg agtacaagaag
 481 tctctgtcca gttcctgcag aaaaaggcaa agaacttaga tgcaataacc acccctgacc
 541 caaccacaaa tgccagcctg ctgacgaagc tgcaggcaca gaaccagtggt ctcaggaca
 601 tgacaactca tctcattctg cgcagcttta aggagttcct gcagtcagc ctgagggtc
 661 ttcggcaaat gtagcatggg cacctcagat tgttgtgtt aatgggcatt ccttctctg
 721 gtcagaaacc tgtccactgg gcacagaact tatgtgttc tctatggaga actaaaagta
 781 tgagcggttag gacactattt taattatttt taatttatta atatttaaat atgtgaagct
 841 gagttaattt atgtaagtga tatttatatt ttaagaagta ccacttgaaa cattttatg
 901 attagttttg aaataataat ggaaagtggc tatgcagttt gaatattcctt tgtttcagag
 961 ccagatcatt tcttggaag tgtacgctta cctcaaataa atggctaact tatacatatt
1021 ttraaagaaa tatttatatt gtatttatat aatgtataaa atggttttta taccataaa
1081 tggcatttta aaaaattcag ca
1 gaattccggg aacgaaagag aagctctatc tcccctccag gagcccagct atgaactcct
  61 tctccacaag cgccttcggt ccagttgcct tctccctggg gctgctcctg gtgttgccctg
 121 ctgccttccc tgccccagta cccccaggag aagattccaa agatgtagcc gccccacaca
 181 gacagccact cacctcttca gaacgaattg acaaacaat tcggtacatc ctgcacggca
 241 tctcagccct gagaaaggag acatgtaaca agagtaacat gtgtgaaagc agcaaagagg
 301 cactggcaga aaacaacctg aaccttccaa agatggctga aaaagatgga tgcttccaat
 361 ctggattcaa tgaggagact tgcctggtga aaatcatcac tggctctttg gagtttgagg
 421 tatacctaga gtacctccag aacagatttg agagtagtga ggaacaagcc agagctgtgc
 481 agatgagtac aaaagtcctg atccagttcc tgcagaaaaa ggcaaagaat ctatagtaa
 541 taaccacccc tgacccaacc acaaatgcc aacctgtgac gaagctgcag gcacagaacc
 601 agtggctgca ggacatgaca actcatctca ttctgcgcag ctttaaggag ttctgcagt
 661 ccagcctgag ggctcttcgg caaatgtagc atgggcacct cagattgttg ttgttaatgg
 721 gcattccttc ttctggctcag aaacctgtcc actgggcaca gaacttatgt tgttctctat
```

781 ggagaactaa aagtatgagc gttaggacac tttttaatt atttttaatt tattaatatt  
841 taatatatgt aagctgagtt aatttatgta agtcatattt atatttttaa gaagtaccac  
901 ttgaaacatt ttatgtatta gttttgaaat aataatggaa agtggctatg cagtttgaat  
961 atcctttgtt tcagagccag atcatttctt ggaaagtgtg ggcttacctc aaataaatgg  
1021 ctaacttata catattttta aagaaatatt tatattgtat ttatataatg tataaatggt  
1081 ttttatacca ataaatggca ttttaaaaaa ttc

## (2) INFORMATION FOR SEQ ID NO:115:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1194 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

1 ggatcctcct gcaagagaca ccacctgag gggaagagg cttctgaacc agcttgaccc  
61 aataagaaat tcttgggtgc cgacggggac agcagattca gaccttagag ccgtgacctg  
121 gtccgtagtt tccttctagc ttctttttga tttcaaatca agacttacag ggagaggag  
181 gcataaacac aaactctgca agatgccaca aggtcctcct ttgacatccc caacaaagaa  
241 ggtgagtagt aatctcccc tttctgccct gaaccaagtg gcttcagtaa gtttcagggc  
301 tccaggagac ctgggcatgc aggtgccgat gaaacagtgg tgaagagact cagtggcagt  
361 ggcagtgggg agagcactcg cagcacaggc aaacctctgg cacaagagca aagtcctcac  
421 tggaggattc ccaagggtca cttgggagag ggcaggcagc agccaacctc cttaagtgg  
481 gctgaagcag gtgaagaaat ggcagaagac gcggtggtgg caaaaaggag tcacacactc  
541 cacctggaga cgccttgaag taactgcacg aaatttgagg gtggccaggc agttctacaa  
601 cagccgcctc acagggagag ccagaacaca gcaagaactc agatgactgg tagtattacc  
661 ttcttccataa tcccaggctt ggggggctgc gatggagtca gaggaaactc agttcagaac  
721 atctttgtgt tttacaatac aaatttaactg gaacgctaaa ttctagcctg ttaatctggt  
781 cactgaaaaa aaaaaaattt ttttttttc aaaaaacata gctttagctt atttttttt  
841 tctctttgta aaacttcgtg catgacttca gctttactct tgcaagaca tgccaagtgc  
901 tgagtcacta ataaagaaaa aagaagttaa ggaagagtgg tctgcttct tagcgctagc  
961 ctcaatgacg acctaatgtg cacttttccc cctagtgtg tcttgcatg ctaaaggacg  
1021 tcattgcaca atcttaataa ggtttccaat cagccccacc cgctctggcc ccaccctcac  
1081 cctccaacaa agatttatca aatgtgggat tttcccatga gtctcaatat tagagtctca  
1141 accccaataa aatataggac tggagatgtc tctgaggctc attctgcctc cgag

## (2) INFORMATION FOR SEQ ID NO:116:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3319 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:

1 ggcggtcccc tgttctcccc gctcaggtgc ggcgctgtg caggaagcca cccctcggt  
61 cgggcggtgc ggggggctgt tgcgccatcc gctccggctt tcgtaaccgc accctgggac  
121 ggcccagaga cgctccagcg cgagttcctc aaatgttttc ctgcgttgcc aggaccgtcc  
181 gccgctctga gtcattgtcg agtgggaagt cgactgaca ctgagccggg ccagagggag  
241 agggagccag cgcgcgcgcg ggccgaggga ctgcagtggt gtgtagagag ccgggctcct  
301 gcggtatggg gctgcccccg gggcctgagc ccgctgccc gccaccgcc ccgccccgcc  
361 cctgccaccc ctgccgccc gttcccatta gcctgtccgc ctctgcggga ccatggagtg  
421 gtagccgagg aggaagcatg ctggccgctg gctgcgcgt gctggctgcc ctgctggccc  
481 cgccgggagc ggcgctggcc ccaaggcgct gccctgcgca ggaggtggca agagggctgc  
541 tgaccagtct gccaggagac agcgtgactc tgacctgccc ggggttagag ccggaagaca  
601 atgccactgt tcaactgggtg ctcaagaaac cggctgcagg ctcccacccc agcagatggg  
661 ctggcatggg aaggaggctg ctgctgaggt cgggtcagct ccacgactct ggaactatt  
721 catgctaccg ggccggccgc ccagctggga ctgtgcactt gctggtggat gttccccccg  
781 agggagccca gctctcctgc ttccggaaga gccccctcag caatgttgtt tgtgagtggg  
841 gtcctcggag caccatcc ctgacgacaa aggtgtgct cttggtgagg aagtttcaga  
901 acagtcgggc cgaagacttc caggagccgt gccagtattc ccaggagtcc cagaagttct  
961 cctgccagtt agcagtcctc gaggagagaca gctctttcta catagtgtcc atgtgcgtcg  
1021 ccagttagtg cgaggagcaag ttcagcaaaa ctcaaacctt tcagggttgt ggaactctgc  
1081 acctgatcc gctgccaaac atcacagtca ctgccgtggc cagaacacct cgctggctca  
1141 gtgtcacctg gcaagacccc cactcctgga actcatctt ctacagacta cggtttgagc  
1201 tcagatatcg ggctgaacgg tcaaagacat tcacaacatg gatgtcaag gacctccagc  
1261 atcactgtgt catccacgac gcctggagcg gcctgaggca cgtggtgcag cttcgtgccc  
1321 agggaggagt cgggcaaggc gagtggagcg agtggagccc ggaggccatg ggcacgcctt  
1381 ggacgaatc caggagtcct ccagctgaga acgaggtgtc caccacctga caggcactta  
1441 ctactaataa agacgatgat aatatctctc tcagagattc tgcaaatgag acaagcctcc  
1501 cagtgaaga ttcttcttca gtaccactgc ccacattcct ggttgctgga gggagcctgg  
1561 ccttcggaac gctcctctgc attgccattg ttctgaggtt caagaagacg tggagctgc  
1621 gggctctgaa ggaaggcaag acaagcatgc atccgcctga ctctttgggg cagctggtcc  
1681 cgagagggcc tcgacccacc ccagtgtgtt ttcctctcat ctccccacc ggtgtccccc  
1741 cgagcctggg gtctgacaat acctcgagcc acaaccgacc agatgccagg gcccacgga  
1801 gcccttatga catcagcaat acagactact tcttccccag atagctggct ggggtggacc  
1861 agcagcctgg accctgtgga tgacaaaaca caaacgggct cagcaaaaga tgcttctcac  
1921 tgccatgcca gcttatctca ggggtgtgct gcctttggct tcacggaaga gccttgcgga

1981 aggttctacg ccaggggaaa atcagcctgc tccagctgtt cagctgggtg aggtttcaaa  
2041 cctccctttc caaatgcccc gcttaaaggg gttagagtga acttggggca ctgtgaagag  
2101 aaccatatca agactctttg gacactcaca cggacactca aaagctgggc aggttggtgg  
2161 gggcctcggg gtggagaagc ggctggcagc ccacccctca acacctctgc acaagctgca  
2221 ccctcaggca ggtgggatgg atttcagcc aaagcctcct ccagccgcca tgctcctggc  
2281 ccaactgcatc gtttcatctt ccaactcaaa ctcttaaaac ccaagtggcc ttagcaaat  
2341 ctgtttttct aggcctgggg acggctttta cttaaacgcc aaggcctggg ggaagaagct  
2401 ctctctctcc tttcttccct acagttcaaa aacagctgag ggtgagtggg tgaataatac  
2461 agtatgtcag ggcctggtcg ttttcaacag aattataatt agttcctcat tagcagtttt  
2521 gcctaaatgt gaatgatgat cctaggcatt tgctgaatac agaggcaact gcattggctt  
2581 tgggtttgcag gacctcaggt gagaagcaga ggaaggagag gagaggggca cagggtctct  
2641 accatccctc gtagagtggg agctgagtgg gggatcacag cctctgaaa ccaatgttct  
2701 ctcttctcca cctcccacaa aggaagagcta gcagcaggga gggcttctgc catttctgag  
2761 atcaaaacgg ttttactgca gctttgtttg ttgtcagctg aacctgggta actagggaag  
2821 ataattattaa ggaagacaat gtgaaaagaa aaatgagcct ggcaagaatg cgtttaaact  
2881 tgggtttttaa aaaactgctg actgttttct cttgagaggg tggaatatcc aatattcgct  
2941 gtgtcagcat agaagtaact tacttaggtg tgggggaagc accataactt ggtttagccc  
3001 aaaaccaagt caagtgaaaa aggaggaaga gaaaaaatat tttctgcca ggcattggag  
3061 cccacgcact tcgggaggtc gaggcaggag gatcacttga gtccagaagt ttgagatcag  
3121 cctgggcaat gtgataaaac cccatctcta caaaaagcat aaaaattagc caagtgtggt  
3181 agagtgtgcc tgaagtccca gatacttggg gggctgaggt gggaggatct cttgagcctg  
3241 ggaggtcaag gctgcagtga gccgagattg caccactgca ctccagcctg gggtagacaga  
3301 gcaagtgaga ccctgtctc

## (2) INFORMATION FOR SEQ ID NO:117:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 4413 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:

1 ggatcctcct gcaagagaca ccatacctgag gggaagaggg cttctgaacc agcttgacc  
61 aataagaaat tcttgggtgc cgacggggac agcagattca gagcctagag ccgtgcctgc  
121 gtccgtagtt tccttctagc ttttttttga tttcaaatca agacttacag ggagagggag  
181 cgataaacac aaactctgca agatgccaca aggtcctcct ttgacatccc caacaaagaa  
241 ggtgagtagt aatctccccc tttctgccct gaaccaagtg gcttcagtaa gtttcagggc  
301 tccaggagac ctgggcatgc aggtgccagt gaaacagtgg tgaagagact cagtggcagt  
361 ggcagtgggg agagcactcg cagcacagcg aaacctctgg cacaagagca aagtctctac  
421 tggaggattc ccaaggggtc cttgggagag ggcaggcagc agccaacctc ctctaagtgg  
481 gctgaagcag gtgaagaaat ggcagaagac gcggtggtgg caaaaaggag tcacacactc  
541 cacctggaga cgccttgaag taactgcacg aaatttgagg gtggccaggc agttctacaa  
601 cagccgcctc acagggagag ccagaacaca gcaagaactc agatgactgg tagtattacc  
661 ttcttcataa tcccaggctt ggggggctgc gatggagtca gaggaactc agttcagaac  
721 atctttggtt tttacaatac aaattaactg gaacgctaaa ttctagcctg ttaatctggt  
781 cactgaaaaa aaaaaaat ttttttttcc aaaaaacata gcttagctt atttttttt  
841 tctctttgta aaacttcgtg catgacttca gctttactct tgtcaagaca tgccaagtgc  
901 tgaagtacta ataaagaaaa aagaagttaa ggaagagtgg ttctgcttct tagcgctagc  
961 ctcaatgacg acctaagctg cacttttccc cctagtgtg tcttgcgag ctaaaaggag  
1021 tcattgcaca atcttaataa ggtttccaat cagccccacc cgtctggcc ccacctcac  
1081 cctccaacaa agatttatca aatgtgggat tttcccatga gtctcaatat tagagtctca  
1141 accccaata aatataggac tggagatgct tctgaggtc attctgccct cgag  
1 ggcggtcccc tgttctccc gctcaggtg ggcgctgtg caggaagcca cccctcggt  
61 cggcggtgct gcggggtgtg tgcgccatcc gctcggctt tctgaaccg accctgggac  
121 ggcccagaga cgctccagcg cgagttctc aaatgtttt ctgctgtgcc aggaccgtcc  
181 gccgctctga gtcagtgtcg agtgggaagt cgcactgaca ctgagccggg ccagagggag  
241 aggagccgag cgcggcgcg ggcgagggga ctgcagtggt gtgtagagag ccgggtcct  
301 gcggtgggg gctgccccg gggcctgagc cgcctgccc gccaccgcc ccgcccgc  
361 cctgccacc ctgccgccg gttccatta gctgtccgc ctctgcggga ccatggagt  
421 gtagccgagg aggaagcatg ctggcctgct gctgcgctg gctggctgcc ctgctggccg  
481 cgccgggagc ggcgctggcc ccaaggcgtt gccctgcgca ggaggtggca agaggcgtg  
541 tgaccagtct gccaggagac agcgtgactc tgacctgcc ggggtagag ccggaagaca  
601 atgccactgt tctactgggt ctcagggaag cggtgcagg ctcccaccg ccagatggg  
661 ctggcatggg aaggaggctg ctgctgaggt cgggtcagct ccacgactct ggaactatt  
721 catgctaccg ggccggccgc ccagctggga ctgtgcaact gctggtggat gttcccccg  
781 aggagcccca gctctcctgc ttccggaaga gccccctcag caatgttgt ttgtagtggt  
841 gtccctcgag caccatcc ctgacgacaa aggtgtgtct cttggtgag aagtttcaga  
901 acagtccgc cgaagacttc caggagcgtt gccagtatt ccaggagtcc cagaagtct  
961 cctgccagtt agcagtcctg gaggagaca gctctttcta catagtgtcc atgtcgctg  
1021 ccagtgtgt cgaggagca ttacagcaaaa ctcaaactt tcagggttgt ggaatcttgc  
1081 agcctgatcc gcctgccaac atcacagtca ctgcccgtgg cagaaacccc cgtggctca  
1141 gtgtcacctg gcaagacccc cactcctgga actcatctt ctacagacta cggtttgagc  
1201 tcagatatcg ggtgaacg tcaaaagacat tcaaacatg gatgtcaag gacctccagc  
1261 atcactgtgt catccacgac gctggagcg ccctgagga cgtggtgag cttcgtgccc  
1321 aggaggagtt cgggcaaggc gagtggagcg agtggagccc ggaggccatg ggcacgcctt  
1381 ggacagaatc caggagtcct ccagctgaga acgaggtgtc caccatgag caggactta

```
1441 ctactaataa agacgatgat aatatttctt ttagagattc tgcaaatgag acaagcctcc
1501 cagtgcgaaga ttcttcttca gtaccactgc ccacattcct ggttgctgga gggagcctgg
1561 ccttcggaac gctcctctgc attgccattg ttctgaggtt caagaagacg tgggaagctgc
1621 gggctctgaa ggaaggcaag acaagcatgc atccgccgta ctctttggg cagctggtcc
1681 cggagagggc tcgacccacc ccagtgtctg ttctctcat ctccccacc gtgtccccca
1741 gcagcctggg gcttgacaat acctcgagcc acaaccgacc agatgccagg gaccacgga
1801 gcccttatga catcagcaat acagactact tcttccccag atagctggct ggggtggacc
1861 agcagcctgg accctgtgga tgacaaaaca caaacgggct cagcaaaaga tgcttctcac
1921 tgccatgcca gcttatctca ggggtgtgag gcctttggct tcacggaaga gccttgcgga
1981 aggttctacg ccaggggaaa atcagcctgc tccagctgtt cagctggttg aggtttcaaa
2041 cctccctttc caaatgcccc gcttaaaggg gttagagtga acttgggcca ctgtgaagag
2101 aaccatatca agactctttg gacactcaca cggacactca aaagctggg aggttgggtg
2161 gggcctcggt gtggagaagc ggctggcagc ccacccctca acacctctgc acaagctgca
2221 cctcaggca ggtgggatgg atttcagacc aaagcctcct ccagccgcca tgctcctggc
2281 ccactgcacg gtttcatctt ccaactcaaa ctcttaaaac ccaagtggcc ttagcaaat
2341 ctgtttttct aggcctgggg acggctttta cttaaacgcc aaggcctggg ggaagaagct
2401 ctctctccc ttcttccc acagttcaaa aacagctgag ggtgagtggt tgaataatc
2461 agtatgtcag ggcctggctg ttttcaacag aattataatt agttcctcat tagcagttt
2521 gcctaaatgt gaatgatgat cctaggcatt tgctgaatac agaggcaact gcattggctt
2581 tgggttgcag gacctcaggt gagaagcaga ggaaggagag gagaggggca cagggtctct
2641 accatcccc gttagtggtg agctgagtg gggatcacag cctctgaaa ccaatgttct
2701 ctctctcca cctcccacaa aggagagcta gcagcaggga gggcttctgc cattctgag
2761 atcaaaacgg ttttactgca gctttgttgg ttgtcagctg aacctgggta actagggaag
2821 ataataataa ggaagacaat gtgaaaagaa aaatgagcct ggcaagaatg cgtttaaact
2881 tggtttttaa aaaactgctg actgttttct cttagagagg tggaatatcc aatattcgct
2941 gtgtcagcat agaagtaact tacttaggtg tgggggaagc accataaact tgtttagccc
3001 aaaaaccaag caagtgaaaa aggaggaaga gaaaaaata tttcctgcca ggcattggag
3061 cccacgcact tcgggaggtc gaggcaggag gatcacttga gtccagaagt ttgagtcag
3121 cctgggcaat gtgataaac cccatctcta caaaaagcat aaaaattagc caagtgtggt
3181 agagtgtgcc tgaagtccca gatacttggg gggctgaggt gggaggtatc cttaggcctg
3241 ggaggtcaag gctgcagtg gccgagattg caccactgca ctccagcctg ggggtgacaga
3301 gcaagtgaga cctgtctc
```

## (2) INFORMATION FOR SEQ ID NO:118:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1533 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

```
1 atacctagc actaattag ttccatatgt actatgtgta cctgaaaagt tgtgtggcaa
61 tcaaattttc acaaatagaa tctgttttta aatacactaa gaaagtacct actttatcct
121 ttaaacaga ggtcagcaga ctttttctac aaagggtcag atagtaaaga ttttacacct
181 tttgtacaat acaatctcta tctcatctac ttagctctgc cattgttga taaaagcagc
241 tgtagatgat acacaaatgg gtgaggctgt attccaaatg aaacgttatt tgcaaaaaca
301 ggtgttagat taaatttggg cccaaggctt acttgggaaa aaaaagatc tttgaaaaa
361 gaaaaaataa atgaataatt ttttataaaa attgttcctt aggtcatagt ttgccagccc
421 ctgccctaaa caaataattc ttgaatgcct actgtgtgtg gtaagatatg agtaataacc
481 agggatacac agagaacaaa agagaaaaac tgctattctt gtgaaacttg gaagtggag
541 gtaagctatt taaaataaac ccacaataaa gtacttcaca tagtcagac tgtttcttta
601 aatcaaaact cactccaaac aaccaattga ttcactttgt aagtttgaat tttgtcttc
661 agattctttt aaagtgggccc cttagtcagg agcgggtggc catgcctgta gtcctagcac
721 tttgggaggg tgaggcaggg agatcacttg aggtcaggag ttcgagacaa gcctggccaa
781 catggcgaaa ccccgctctc actgaaaaca caaaaattag gctggcatag tggcatttgc
841 ctgtagtctt agtactcag gaggttgagg caggagaatt gcttgaacct gggaggtgaa
901 aattgcagtg agccgagatc atgctattgt actccagcct gggcaacaaa gcaagactcg
961 tctcaaaaaa ataaaaatta aaaaaataaa gtagcctcta gcctaagata gcttgagcct
1021 aggtgtgaat ctactgcctt actctgatgt aagcacagta agtgtggggg ctgcagggaa
1081 tatccaggag gaacaataat ttcagaggct ctgtctcttc atgtccttga cctctgctta
1141 cagcagcaat acttttactc agacttctct tttctggaac ttgccttctt ttttctgtg
1201 tttatacttc ccttctctgt ggttagataa gtataaagcc ctagatctaa gcttctctgt
1261 ctctctccct cctcctcttc ctcttactct cattcatttc atacacactg gctcacacat
1321 ctactctctc tctctatctc tctcagaatg acaattctag gtacaacttt tggcatgggt
1381 ttttctttac ttcaagtcgt ttctggagaa agtggctatg ctcaaaatgg tgagtcattt
1441 ctaacttttc ttatggattt tggattatct gtagcatggt ttcaggttat tcagttccct
1501 aagagacctg agtcaggcac tgggtttgag tgc
```

## (2) INFORMATION FOR SEQ ID NO:119:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1658 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

```
1 ctctctctct atctctctca gaatgacaat tctaggtaca acttttggca tggttttttc
```

61 tttacttcaa gtcgtttctg gagaaagtgg ctatgctcaa aatggagact tgggaagatgc  
121 agaactggat gactactcat tctcatgcta tagccagttg gaagtgaatg gatcgagca  
181 ttcactgacc tgtgcttttg aggaccagga tgtcaacacc accaatctgg aatttgaaat  
241 atgtggggcc ctctgtggagg taaagtgcct gaatttcagg aaactacaag agatatattt  
301 catcgagaca aagaaattct tactgattgg aaagagcaat atatgtgtga aggttgagga  
361 aaagagtcta acctgcaaaa aaatagacct aaccactata gttaaacctg aggtcctttt  
421 tgacctgagt gtcactctatc gggaaggagc caatgacttt gtggtgacat ttaatacatc  
481 acacttgcaa aagaagtatg taaaagtttt aatgcatgat gtagcttacc gccaggaaaa  
541 ggatgaaaaac aaatggacgc atgtgaattt atccagcaca aagctgacac tctgtcagag  
601 aaagctccaa ccggcagcaa tgtatgagat taaagttcga tccatccctg atcactattt  
661 taaaggcttc tggagtgaat ggagtccaag ttattacttc agaactccag agatcaataa  
721 tagctcaggg gagatggatc ctatcttact aaccatcagc attttgagtt ttttctctgt  
781 cgctctgttg gtcactcttg cctgtgtgtt atggaaaaaa aggattaagc ctatcgtag  
841 gccagctctc cccgatcata agaagactct ggaacatctt tgtaagaaac caagaaaaaa  
901 tttaaatgtg agtttcaatc ctgaaagttt cctggactgc cagattcata ggggtgatga  
961 cattcaagct agagatgaag tggaaagttt tctgcaagat acgtttcctc agcaactaga  
1021 agaactctgag aagcagagggc ttggaggaggc tgtgcagagc cccaactgcc catctgagga  
1081 tgtagtcgtc actccagaaa gctttggaag agattcatcc ctacatgcc tggctgggaa  
1141 tgtcagtgca tgtgacgccc ctattctctc ctcttccagg tccctagact gcaggggag  
1201 tggcaagaat gggcctcatg tgtaccagga cctcctgctt agccttggga ctacaaacag  
1261 cagctgccc cctccatttt ctctccaatc tggaaactct acattgaacc cagttgctca  
1321 gggtcagccc attcttactt ccctgggagc aaatcaagaa gaagcatatg tcaccatgct  
1381 cagcttctac caaaaccagt gaagtgtatg aaaccagac tgaacttacc gtgagcgaca  
1441 aagatgattt aaaagggag tctagagttc ctagtctccc tcacagcaca gagaagacaa  
1501 aattagcaaa accccactac acagtctgca agattctgaa acattgcttt gaccactctt  
1561 cctgagttca gtggcactca acatgagtca agagcatcct gcttctacca tgtggatttg  
1621 gtcacaaggt ttaagtgac ccaatgattc agctattt

## (2) INFORMATION FOR SEQ ID NO:120:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3191 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

1 atacctagc actaatttag ttccatagt actatgtgta cctgaaaagt tgtgtggcaa  
61 tcaaattttc acaaatagaa tctgtttta aatacactaa gaaagtacct actttatcct  
121 ttaaacaaga ggtcagcaga cttttctac aaagggtcag atagttaaaga ttttacacct  
181 tttgtacaat acaatctcta tctcatctac ttagctctgc cattgttgca taaaagcagc  
241 tgtagatgat acacaaatgg gtgaggctgt attccaaatg aaacgttatt tgcaaaaaca  
301 ggtggtgat taaatttgggt cccaaggctt acttgggaaa aaaaaagatc ttttgaaaaa  
361 gaaaaataaa atgaataatt ttttataaaa attgttcctt aggtcatatg ttgccagccc  
421 ctgcccataa caaataattc ttgaatgcct actgtgtgtg gtaagatatg agtaaatacc  
481 agggatacac agagaacaaa agagaaaaac tgctattctt gtgaaacttg gaagttggag  
541 gtaagctatt taaaataaac ccacaataaa gtacttcaca tagtgcagac tgtttcttta  
601 aatcaaaaact cactccaaac aaccaattga ttcactttgt aagtttgaat ttttgtcttc  
661 agattctttt aaagtggggc cttagtcagg agcgggtggc catgctgtga gtcctagcac  
721 tttgggaggc tgaggcaggc agatcacttg aggtcaggag ttcgagacaa gcttgcccaa  
781 catggcgaaa ccccgctctc actgaaaaa caaaaattag gctggcatag tggcatttgc  
841 ctgtagtcct agctactcag gaggctgagg caggagaatt gcttgacct gggaggtgaa  
901 aattgcagtg agccgagatc atgctattgt actccagcct gggcaacaaa gcaagactcg  
961 tctcaaaaaa ataaaaatta aaaaaataaa gtacccctta gcctaagata gcttgagcct  
1021 aggtgtgaat ctactgcctt actctgatgt aagcacagta agtgtggggg ctgcagggaa  
1081 tatccaggag gaacaataat ttcagaggct ctgtctcttc atgtccttga cctctgctta  
1141 cagcagcaat acttttactc agacttctct tttctggaac ttgccttctt tttgtctgtg  
1201 tttatacttc ccttgtctgt ggtagataa gtataaagcc ctatgcttaa gcttctctgt  
1261 cttctctcct ccttcccttc ctcttactct cattcatttc atacacactg gctcacacat  
1321 ctactctctc tctctatctc tctcagaatg acaattctag gtacaacttt tggcatgggt  
1381 ttttctttac ttcaagtcgt ttctggagaa agtggctatg ctcaaaatgg tgagtcattt  
1441 ctaacttttc ttatggattt tggattatct gtagcatggg ttcaggttat tcagttccct  
1501 aagagacctg agtcaggcac tgggtttgag tgc  
1 ctctctctct atctctctca gaatgacaat tctaggtaca acttttgga tggtttttct  
61 tttacttcaa gtcgtttctg gagaaagtgg ctatgctcaa aatggagact tgggaagatgc  
121 agaactggat gactactcat tctcatgcta tagccagttg gaagtgaatg gatcgagca  
181 ttcactgacc tgtgcttttg aggaccagga tgtcaacacc accaatctgg aatttgaaat  
241 atgtggggcc ctctgtggagg taaagtgcct gaatttcagg aaactacaag agatatattt  
301 catcgagaca aagaaattct tactgattgg aaagagcaat atatgtgtga aggttgagga  
361 aaagagtcta acctgcaaaa aaatagacct aaccactata gttaaacctg aggtcctttt  
421 tgacctgagt gtcactctatc gggaaggagc caatgacttt gtggtgacat ttaatacatc  
481 acacttgcaa aagaagtatg taaaagtttt aatgcatgat gtagcttacc gccaggaaaa  
541 ggatgaaaaac aaatggacgc atgtgaattt atccagcaca aagctgacac tctgtcagag  
601 aaagctccaa ccggcagcaa tgtatgagat taaagttcga tccatccctg atcactattt  
661 taaaggcttc tggagtgaat ggagtccaag ttattacttc agaactccag agatcaataa  
721 tagctcaggg gagatggatc ctatcttact aaccatcagc attttgagtt ttttctctgt  
781 cgctctgttg gtcactcttg cctgtgtgtt atggaaaaaa aggattaagc ctatcgtag

841 gccagtcctc cccgatcata agaagactct ggaacatctt tgtaagaac caagaaaaaa  
901 tttaaatgtg agtttcaatc ctgaaagttt cctggactgc cagattcata ggggtgatga  
961 cattcaagct agagatgaag tggaaaggtt tctgcaagat acgtttcctc agcaactaga  
1021 agaatctgag aagcagaggc ttggagggga tgtgcagagc cccaactgcc catctgagga  
1081 tgtagtcgtc actccagaaa gctttggaag agattcatcc ctcacatgcc tggctggga  
1141 tgtcagtcca tgtgacgccc ctattctctc ctcttcagg tccctagact gcaggagag  
1201 tggcaagaat gggcctcatg tgtaccagga cctcctgctt agccttggga ctacaacag  
1261 cacgctgccc cctccatttt ctctccaatc tggaaatcctg acattgaacc cagtgtctca  
1321 gggtcagccc attcttactt ccctgggac aaatcaagaa gaagcatatg tcaccatgtc  
1381 cagcttctac caaaaccagt gaagtgtgaa aaaccagac tgaacttacc gtgagcgaca  
1441 aagatgattt aaaagggag tctagagttc ctagtctccc tcacagcaca gagaagacaa  
1501 aattagcaaa accccactac acagtctgca agattctgaa acattgcttt gaccactctt  
1561 cctgagttca gtggcactca acatgagtca agagcatcct gcttctacca tgtggatttg  
1621 gtcacaaggt ttaaggtgac ccaatgatcc agctattt

## (2) INFORMATION FOR SEQ ID NO:121:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1846 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

1 ctcagcctcg ctatggctcc cagcagcccc cgcccgcgc tgcccgcact cctgttcctg  
61 ctccgggctc tgttcccagg acctggcaat gccagacat ctgtgtcccc ctcaaaagtc  
121 atcctgcccc ggggaggctc cgtgctgggtg acatgcagca cctcctgtga ccagcccaag  
181 ttgttgggca tagagacccc gttgcctaaa aaggagttgc tctgctgtg gaacaaccgg  
241 aaggtgtatg aactgagcaa tgtgcaagaa gatagccaac caatgtgcta ttcaactgc  
301 cctgatgggc agtcaacagc taaaaccttc ctcaccgtgt actggactcc agaacgggtg  
361 gaactggcac cctccctc ttggcagcca gtgggcaaga acctaccct acgtgccag  
421 gtggagggtg gggcaccctg ggccaacctc accgtgggtc tgcctcgtgg ggagaaggag  
481 ctgaaacggg agccagctgt gggggagccc gctgaggtca cgaccaggt gctggtgagg  
541 agagatcacc atggagccaa tttctcgtgc cgcactgaac tggacctgcg gccccaaggg  
601 ctggagctgt ttgagaacac ctccggcccc taccagctcc agaccttgt cctgccagcg  
661 actccccac aactgtcag cccccgggtc ctgaggtgg acacgcaggg gaccgtggtc  
721 tgttccctgg acgggtgtt cccagtctcg gaggcccagg tccacctggc actgggggac  
781 cagaggttga accccacagt cacctatggc aacgactcct tctcgccaa ggctcagtc  
841 agtgtgaccg cagaggacga gggcaccag cggctgacgt gtgcagtaat actggggaac  
901 cagagccagg agacactgca gacagtgacc atctacagct ttccggcgcc caacgtgatt  
961 ctgacgaagc cagaggtctc agaagggacc gaggtgacag tgaagtgtga ggcccacct  
1021 agagccaagg tgacgtgaa tggggttcca gccagccac tgggcccag ggcccagctc  
1081 ctgctgaagg ccacccaga ggacaacggg cgcagcttct cctgctctc aacctggag  
1141 gtggccggcc agcttataca caagaaccag acccgggagc ttcgtgtcct gtatggcccc  
1201 cgaactggac agagggttg tccgggaaac tggacgtggc cagaaaattc ccagcagact  
1261 ccaatgtgcc aggttgggg gaaccaattg cccgagctca agtgtctaaa ggatggcact  
1321 ttcccactgc ccacgggga atcagtgact gtcactcgag atcttgaggg cacctacctc  
1381 ttggagaccc ggagcactca aggggaggtc acccgcgagg tgacctgaa tgtgtctctc  
1441 ccccggtatg agattgtcat catcactgtg gtagcagccg cagtcataat gggcactgca  
1501 ggctcagca cgtacctcta taaccgccag cgaagatca agaaatacag actacaacag  
1561 gcccaaaaag ggacccccat gaaaccgaac acacaagcca cgcctccctg aacctatccc  
1621 gggacagggc ctcttctctg gccttcccat attggtggca gtggtgccac actgaacaga  
1681 ttggaagaca tatgcatgc agctacacct accggccctg ggacgcgga ggacagggca  
1741 ttgtcctcag tcagatacaa cagcatttgg ggccatggta cctgcacacc taaaacacta  
1801 ggccacgcat ctgatctgta gtcacatgac taagccaaga ggaagg

## (2) INFORMATION FOR SEQ ID NO:122:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1041 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

1 ctaaagatct cctccaggc agcccttggc tggctcctgc gagcccgtgg agactgccag  
61 agatgtcctc tttcgggtac aggacctga ctgtggcctt cttcaccttg atctgtgtgc  
121 caggatcgga tgagaaggta ttcgaggtac acgtgaggcc aaagaagctg gcggttgagc  
181 ccaaagggtc cctcaggtc aactgcagca ccacctgtaa ccagcctgaa gtgggtggtc  
241 tggagacctc tctaaataag attctgtgg acgaacaggc ctagtggaaa cattacttg  
301 tctcaaacat ctcccatgac acggtctctc aatgccactt cacctgctcc gggaagcagg  
361 agtcaatgaa ttccaacgtc agcgtgtacc agcctccaag gcaggtcatc ctgacactgc  
421 aacccacttt ggtggctgtg ggcaagtctt tcaccattga gtgcagggtg cccaccgtgg  
481 agccccggga cagcctcacc ctcttctctg tccgtggcaa tgagactctg cactatgaga  
541 cctctgggaa ggcagcccct gctccgaggg aggccacagc cacattcaac agcacggtc  
601 acagagagga tggccaccgc aacttctctt gcctggctgt gctggacttg atgtctcgcg  
661 gtggcaacat ctttcacaaa cactcagccc cgaagatgtt ggagatctat gagcctgtgt  
721 cggacagcca gatggtcatc atagtcacgg ttgtgtcgtt gttgtgtccc ctgttctgta  
781 catctgtcct gctctgcttc atcttcggcc agcacttgcc ccagcagcgg atgggcacct

841 acgggggtgcg agcgggcttgg aggaggtgc cccaggcctt ccggccatag caaccatgag  
901 tggcatggcc accaccacgg tggctactgg aactcagtgt gactcctcag gggtgaggtc  
961 cagccctggc tgaaggactg tgacaggcag cagagacttg ggacattgcc ttttctagcc  
1021 cgaatacaaa cacctggact t

## (2) INFORMATION FOR SEQ ID NO:123:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2887 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

1 ctcagcctcg ctatggctcc cagcagcccc cggcccgcgc tgcccgcact cctggctcctg  
61 ctcggggctc tgttcccagg acctggcaat gccagacat ctgtgtcccc ctcaaaagtc  
121 atcctgcccc ggggaggctc cgtgtcgttg acatgcagca cctcctgtga ccagcccaag  
181 ttgttgggca tagagacccc gttgcctaaa aaggaggtgc tcctgcctgg gaacaaccgg  
241 aaggtgtatg aactgagcaa tgtgcaagaa gatagccaac caatgtgcta ttcaaaactgc  
301 cctgatgggc agtcaacagc taaaaccttc ctaccctgtg actggactcc agaacgggtg  
361 gaactggcac cctccccctc ttggcagcca gtgggcaaga accttacctt acgctgccag  
421 gtggagggtg gggcaccctc ggccaacctc accgtggtgc tgctccgtgg ggagaaggag  
481 ctgaaacggg agccagctgt gggggagccc gctgaggtca cgaccacggt gctgggtgag  
541 agagatcacc atggagccaa tttctcgtgc cgcactgaac tggacctgcg gcccgaagg  
601 ctggagctgt ttgagaacac ctgggcccc taccagctcc agaccttgt cctgccagcg  
661 actccccac aacttgtcag cccccgggtc ctgaggttg acacgcagg gaccgtggtc  
721 tgttccctgg acgggctgtt cccagtctcg gaggcccagg tccacctggc actgggggac  
781 cagaggttga accccacagt cacctatggc aacgactcct tctcggccaa ggcctcagtc  
841 agtgtgaccg cagaggacga gggcaccagg cggctgacgt gtgcagtaat actggggaac  
901 cagaccagg agacactgca gacagtgacc atctacagct ttcggcgccc caacgtgatt  
961 ctgacgaagc cagaggtctc agaagggacc gaggtgacag tgaagtgtga ggcccaccct  
1021 agagccaagg tgacgctgaa tgggtgtcca gccagccac tggggccgag ggcccagctc  
1081 ctgctgaagg ccaccccaga ggacaacggg cgcagcttct cctgctctgc aacctggag  
1141 gtggccggcc agcttataca caagaaccag acccgggagc ttcgtgtcct gtatggcccc  
1201 cgactggacg agagggattg tccgggaaac tggacgtggc cagaaaattc ccagcagact  
1261 ccaatgtgcc aggttgggg gaaccattg cccgagctca agtgtctaaa ggatggcact  
1321 tccccactgc ccatcgggga atcagtact gtcactcgag atcttgaggg cacctacctc  
1381 tgtcgggcca ggagcactca aggggaggtc acccgcgagg tgaccgtgaa tgtgtctc  
1441 ccccggtatg agattgtcat catcactgtg gtacgagccg cagtcataat gggcactgca  
1501 ggcctcagca cgtacctcta taaccgcag cggaaagatca agaaatacag actacaacag  
1561 gccccaaaaa ggacccccat gaaaccgaac acacaagcca cgcctccctg aacctatccc  
1621 gggacagggc ctcttccctc gccttcccat attgttgga gtggtgccac actgaacaga  
1681 gtggaagaca tatgccatgc agctacacct accggccctg ggacgcggga ggacaggga  
1741 ttgtcctcag tcagatacaa cagcatttgg ggccatggta cctgcacacc taaaacacta  
1801 ggccacgcat ctgatctgta gtcacatgac taagccaaga ggaagg  
1 ctaaagatct cctccaggc agcccttggc tggctcctgc gagcccgagg agactggcag  
61 agatgtcctc tttcggttac aggaccctga ctgtggccct cttcaccctg atctgctgtc  
121 caggatcgga tgagaaggta ttcgaggtag acgtgaggcc aaagaagctg gcggttgagc  
181 ccaaagggtc cctcgaggtc aactgcagca ccacctgtaa ccagcctgaa gtgggtgggc  
241 tggagacctc tctaaataag attctgttgg acgaacaggc tcagtggaaa cattacttgg  
301 tctcaaactc ctcccatgac acggtcctcc aatgccactt cacctgctcc gggaaagcagg  
361 agtcaatgaa ttccaacgtc agcgtgtacc agcctccaag gcaggtcatc ctgacactgc  
421 aacccacttt ggtggctgtg ggcaagtctc tcaccattga gtgcagggtg cccaccgtgg  
481 agcccttggc cagcctcacc ctcttctgt tccgtggcaa tgagactctg cactatgaga  
541 ccttcgggaa ggcagccctt gctccgcagg aggccacagc cacattcaac agcacggctg  
601 acagagagga tggccaccgc aacttctcct gcctggctgt gctggacttg atgtctcgcg  
661 gtggcaacat ctttcacaaa cactcagccc cgaagatgtt ggagatctat gagcctgtgt  
721 cggacagcca gatggtcatc atagtacggc tgggtgcggt gttgtgtcct ctgtctgga  
781 catctgtcct gctctgcttc atcttcggcc agcacttgcg ccagcagcgg atgggacctt  
841 acgggggtgc agcggttgg aggaggtgc cccaggcctt ccggccatag caaccatgag  
901 tggcatggcc accaccacgg tggctactgg aactcagtgt gactcctcag gggtgaggtc  
961 cagccctggc tgaaggactg tgacaggcag cagagacttg ggacattgcc ttttctagcc  
1021 cgaatacaaa cacctggact t

## (2) INFORMATION FOR SEQ ID NO:124:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1739 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

1 aatggccacc atggtaccat ccgtgttgtg gccagggcc tgctggactc tgctggctgt  
61 ctgtctgtctg accccagggtg tccaggggca ggagttcctt ttgcgggtgg agccccagaa  
121 cctgtgtctc tctgttgag ggtccctgtt tgtgaactgc agtactgatt gtcccagctt  
181 tgagaaaaatc gccttgagga cgtccctatc aaaggagctg gtggccagtg gcatgggctg  
241 ggcagccttc aatctcagca acgtgactgg caacagtcgg atcctctgct cagtgtactg  
301 caatggctcc cagataacag gctcctctaa catcaccgtg tacgggctcc cggagcgtgt



361 ggagctggca cccctgcctc cttggcagcc ggtggggccag aacttcaccc tgcgtgccca  
421 agtggagggt gggctgcccc ggaccagcct cacgggtgtg ctgcttcgct gggaggagga  
481 gctgagccgg cagcccgcag tggaggagcc agcggaggtc actgccactg tgctggccag  
541 cagagacgac cagggagccc ctttctcatg ccgcacagaa ctggacatgc agccccaggg  
601 gctgggactg ttcgtgaaca cctcagcccc ccgccagctc cgaacctttg tcttgcccgt  
661 gacccccccg cgctcgtgg cccccgggtt cttggagggtg gaaacgtcgt ggcgggtgga  
721 ctgcacccta gacgggcttt ttccagctc agaggcccag gtctacctgg cgctggggga  
781 ccagatgctg aatgcgacag tcatgaacca cggggacacg ctaacggcca cagccacagc  
841 cacggcgcg cgggatcagg aggggtgccg ggagatcgtc tgcaacgtga ccctaggggg  
901 cgagagacgg gagggccggg agaacttgac ggtctttaag ttcctaggac ccattgtgaa  
961 cctcagcgag cccaccgccc atgaggggtc cacagtgacc gtgagttgca tggctggggc  
1021 tcgagtccag gtcacgctgg acggagtccc ggccgcgccc ccggggcagc cagctcaact  
1081 tcagctaaat gctaccgaga gtgacgacgg acgcagcttc tctgcagtg ccactctcga  
1141 ggtggacggc gagttcttgc acaggaacag tagcgtccag ctgcgagtc tgatgtgtcc  
1201 caaaattgac cgagccacat gccccacgca cttgaaatgg aaagataaaa cgagacacgt  
1261 gctgcagtgc caagccagg gcaaccgta ccccgagctg cgggtgttga aggaaggctc  
1321 gctccgggag gtgcccgttg ggtatccgtt cttcgtcaac gtaacacata atgtactta  
1381 tcagtgccaa gcgtccagct cacgaggcaa atacaccctg gtcgtggtga tggacattga  
1441 ggctgggagc tcccactttg tccccgtctt cgtggcggtg ttactgacct tggcggtgtg  
1501 gactatcgta ctggccttaa tgtacgtctt cagggagcac caacggagcg gcaagtacca  
1561 gtttagggag gagagcacct atctgccct cactctatg cagccgacag aagcaattgg  
1621 ggaagaaccg tccagagctg agtgacgctg ggtatccgga tcaaaagtgg cgggggcttg  
1681 gctgtgccct cagattccgc accaataaag ccttcaaacc ctaaaaaaa aaaaaaaa

## (2) INFORMATION FOR SEQ ID NO:125:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 920 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

1 gcacggaggg gcagagaccc cggagcccca gccccaccat gaccctcggc cgccgactcg  
61 cgtgtctttt cctcgcctgt gtcttgcggg ccttgctgtt ggggggcacc gcgctggcct  
121 cgagagattgt ggggggcccg cgagcgcggc cccacgcgtg gcccttcatt gtgtccctgc  
181 agctgcggcg agggcacttc tgccggccca ccttgattgc gcccaacttc gtcatgtcgg  
241 ccgcgcactg cgtggcgaat gtaaacgtcc gcgcggtgcg ggtgtgtcgt ggagccata  
301 acctctcgcg gcgggagccc acccggcagg tgttcgcctg gcacgcgcatc ttcgaaaacg  
361 gctacgaccc cgtaaaactg ctcaacgaca tctgtattct ccagctcaac gggtcggcca  
421 ccataacgc caacgtgcag gtggcccagc tgccggctca gggacgcgc ctgggcaacg  
481 ggtgacgtg cctggccatg ggctggggcc ttctgggagc gaaccgtggg atcgccagcg  
541 tctgtcagga gctcaacgtg acggtgtgta cgtccctctg ccgtcgcagc aacgtctgca  
601 ctctcgtgag gggccggcag gccggcgtct gtttcgggga ctccgcgagc cccttggctt  
661 gcaacgggct aatccacgga attgcctcct tctccggggg aggtgcgcct tcagggtctt  
721 accccgatgc ctttgccccg gtggcacagt ttgtaaaact gatcgactct atcatccaac  
781 gctccgagga caaccctgt cccaccccc gggacccgga cccggccagc aggacccact  
841 gagaagggtt gcccggttca cctcagctgc ccacaccac actctccagc atctggcaca  
901 ataaacattc tctgttttgt

## (2) INFORMATION FOR SEQ ID NO:126:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5292 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:126:

1 ttgtcagagc ccagctggt gtccaggagc tgaccgtgag cctgggtgaa agtgagttcc  
61 ccgttggagg caccagacga ggagaggatg gaaggcctgg ccccaagaa tgagccctga  
121 ggttcaggag cggctggagt gagccgcccc cagatctccg tccagctgcg ggtccagag  
181 gcctgggtta cactcggagc tcctggggga ggcccttgac gtgctcagtt cccaaacagg  
241 aaccctggga aggaccagag aagtgcctat tgcgcagtga gtgcccgaca cagctgcatt  
301 tggccggtat cacaggcccc ttggtaaaact gaggcaggcg acacagctgc atgtggccgg  
361 tatcacaggg ccctgggtaa actgaggcag gcgacacagc tgcatgtggc cggtatcaca  
421 gggccctggg taaactgagg caggcgacac agctgcattg ggccggtatc acagggccct  
481 gggtaaactg aggcaggcga cacagctgca tgtggccggt atcacggggc cctggataaa  
541 cagaggcagg cgaggccacc ccaatcaagt cctcagggtc taggtttggc caggtttgga  
601 aaaaacacagc aacgctcgtt aactctgaat ttccggtaag tatatcctgg gcctcatttg  
661 gaagagactt agattaaaaa aaaaacgtcg agaccagccc ggccaacacg tgaacccccg  
721 tcttactata aaatacaaaa aattagccag gcgcagtgct cagcctgtg atcccagcac  
781 tctgggagggt gaggcaggcg gatcacccga ggtcagctgt tcaagaccag cctggccgag  
841 ttggcgaaac actgtctcta ctacaaatac aaaaattagc cgggagtggg ggcaggtgcc  
901 tgtaatctca gctattcagg aggtgagc aggagaatca cttgaacctg ggagcgagg  
961 gttgccgtga gccgggatca cgccaccgca ctccagcctg ggcgatagag caagactctg  
1021 tctccaaaaa aataaattaa aaaaccaca ttgattatct gacatttgaa tgcgattgtg  
1081 catcctgaat tttgtctgga ggccccacc gagccaatcc agcgtcttgt ccccttctc  
1141 ccccttttca tcaacgcctg tgccagggga gaggaagtgg agggcgctgg ccggccgtgg

1201 ggcaatgcaa cggcctccca gcacagggct ataagaggag ccgggaggggc acggaggggc  
1261 agagaccccg gagcccccagc cccacccatga ccctcggccg ccgactcgcg tgtcttttcc  
1321 tgcctgtgt cctgccggcg ttgctgtgg ggggtgagtt ttgagtcca acctccgct  
1381 gcttctcttg tcttgggttc tcttccataga gggcccccac agtgtgggtc  
1441 cctcatcttc acaggggagg tggcagctgg gacaaggaga ccagaagaga ctgagggtct  
1501 gagcggtgaa gccaccacca ggagcccaga gttgggggtt gaaaaccggg gagggggggg  
1561 gtggcaggtc gccctctggg ttcaagtcca ggtctgtctg tgccttggag gggcaccgtg  
1621 gggaggtccc ttgctctctc cgtgcctcag ttctctcatc tgaacaacac gggfgcgaac  
1681 gggcccgatc cgttgggttc ccgttggggg atccagaggc ccgttggccg ggaggggaca  
1741 ggctccttgg caggcactca gcacccgcac ccgttgggtc ccaggcacc gcccttggct  
1801 cggagattgt ggggggagcg cgagcggcg ccacgcgtg gcccttcatg gtgtccctgc  
1861 agctgctcgg aggcacttc tgcggcgcca ccctgattgc gcccaacttc gtcattgtcg  
1921 ccgcgactcg cgtggcgaat gtgtgagtag ccgggagtg ggcgcgccg ctcggacccc  
1981 ggcctccggt ctgtgaggtg ggtggggggg ggcgggggcc ggggtgctg gcgggggggg  
2041 gtccgtccag ggcgcgggg gccctcgag caccttcgcc ctcaggcccg tcgcccgatg  
2101 gggacgacaa ggcgcggctg agccccgacc ccgggggccc ccctgagcc ccgcctctcc  
2161 ctcttttggc agaaacgtcc gcgcgggtcg ggtggctctg ggagcccata acctctcgcg  
2221 gcgggagccc acccgcgagg tgttcgctg gcagcgcatc ttcgaaaaac gctacgaccc  
2281 ctgaaacttg ctcaacgaca tctgtattct ccaggtgccc ccggggcggg gggggcgagg  
2341 ggcgagggcc agaggcctgg ggaggggtga ggcctgggga ggggtggaggc tgcgacggag  
2401 gggcgctcg gggcgctcg tggggacctg ggttggcatc gtgggtggg tgggtccctc  
2461 tccgcgctc ggtctgcacc tctgtgaaac gggaaaatac ccgcataggg ccgttgaggg  
2521 gttaaatgag atcttgagg gaggccccga tctgtgtca atcaacaaac ttactgaaa  
2581 gggaggcccc gatctgtgt caatcaacaa acttactgag aaggagggcc ccgatctgtt  
2641 gtcaatcaac aaacttactg agaaggagg ccccgatctg ctgtcaatca acaaacttac  
2701 tgagaaggga ggcgcgatg ttgtcaatca acaaacttac tgagaaggga ggcgcgatc  
2761 tgcgtgcaat caaccaaact tactgagaag ggaggccccg atctgtgtc aatcatcaaa  
2821 ctactgaga agggaggccc cgatctgtg tcaatcaaca aacttactga gaaggggagc  
2881 cccgatctg ttgtcaatca acaaacttac tgagaaggga ggcgcgatc tgcgtgcaat  
2941 caaaaaactt actgagattc tgtgtgtctc tccattcacc agtctgttg cccagggcag  
3001 gggccgcctc tgtcttggg aaaaggggca aaagtcccca cctttccacc cctgtccgcg  
3061 gcttgagtt ctggtattt cctgggcgcg gggccccgtg gctcaggcct gtcattccag  
3121 cactttggga ggctgaggg ggtggatcac gaggtcaggt gtcgagacc agctgagca  
3181 acatagttaa acccgctctc tactaaaaa cacaacaaaa aaattagccg agtgtggtg  
3241 tgggtgctg taatgccaac tactcaggag gctgaggaag gagaatcgct tgaaccccg  
3301 aggcggagat tgcaagtgc tgagatcaca ccactgcact ccagcctggg tctcaaaaaa  
3361 aaaaaaaaag attcctccct gggaagggtt agaggagagg ttctctgtc actaagttt  
3421 ctcatagtc tcaccagtg cagtggcgcg atcgagctc actacacac catctctgg  
3481 gctcaagcca cctctcagc ttggaatggg ggttagctgg aaccacaggt gccaccagc  
3541 ggtccaccac gtctggctaa tataatatata tacacacaca catacatata ttataaata  
3601 taaatatata ttttatttaa ataaaaataa taatatattat aattatttta taattataat  
3661 aatatttata taattataaa tatcatttat aattataata tttattattt tataaataa  
3721 taatatataa atatatataa atatttttat aaataataaa atatatatat acacacatat  
3781 atatatattt tttagacaa gtctcgctct gtcgcccagg ctggagcgca gtgcacaatc  
3841 tcaactcactg cactccgcc tcccaggttc aagcgattct cctgcctcag cctcccaggt  
3901 agctgggact acaggcgccc gccaccacgc ctggctaatt ttgggtattg ttagtagaga  
3961 cgggggttaa ccatgttagc caggatggct ttgatctctt gaccttttga ttggccacc  
4021 tcagcctccc aaaatgctgg gattataggc gtgagcaccg cacttggcaa tttttttta  
4081 ttatttttgt agacatgggg ctttgcacaa ttgcccaggc tggctctgaa tgcctggcct  
4141 ggcctaagt atcctcctgc ctgcgcctcc caaagtgtg ggcttacaag catgagccac  
4201 cgcgcccggc ttagtattt ttgttaactg agcacctact gcttctgca ctcaagccac  
4261 atccagggac aacctccaac gccctgagcc ttggtgacgg ctcccactc acagatgggg  
4321 aaaccgagc ttgccttggg gaggagagtg tgggtgggt atcctgcct caggatccc  
4381 agaaccacag tggaacctga gatggggaaa ctgaggcccg gagaggggag ggtcatcatc  
4441 actgccccgt gtgacgcgt gacgatctgt cccacccgac acagctcaac gggctggcca  
4501 ccatcaacgc caacgtgcag gtggcccagc tgcgggtca gggacgccc cttgggcaacg  
4561 ggggtgcagt cctggccatg ggtgggggccc ttctgggcag gaaccgtgg atcgccagc  
4621 tcctgcagga gctcaacgtg acggtgggtg cgtccctctg ccgtcgagc aacgtctgca  
4681 ctctcgtgag gggccggcag gccggcgtct gttctgtacg tgcctgggt gtccctctgc  
4741 tccccaccg ctcccagccc ggtactgcag caacaggcac cgtggctaga cctaggatg  
4801 ggacttccca accctgacac gtcggcgggc aggtgggcag ggctcgagc tccagcttcc  
4861 ccacttctgc tgcctccaca gggggactcc ggcagcccct tggctgtcaa cgggctaac  
4921 caggaattg cctccttctg ccggggagcc tgcgctcag ggctctacc cgatgcctt  
4981 gccccggtg cacagtgtgt aaactggatc gactctatca tccaacgctc cgaggacaac  
5041 ccctgtcccc acccccggga cccggaccg gccagcagga cccactgaga agggctgccc  
5101 gggtcacctc agctgcccac acccacactc tccagcatct ggcacaataa acattctctg  
5161 tttttagtaa tgtgtttgat gtccttggc tgtgtgattg ggtgtgaaa atggtcagta  
5221 ggtcggcggt ggtggctcac acctgtaac ccagcacttt gggaggttga ggcaggcgga  
5281 tcacttgagc tc

## (2) INFORMATION FOR SEQ ID NO:127:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6212 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:127:

```
1 gcacggaggg gcagagaccc cggagcccca gccccaccat gaccctcggc cggcgactcg
  61 cgtgtctttt cctcgctgtg gtcttgccgg ccttgcctgt ggggggcacc ggcgtggcct
  121 cggagattgt ggggggcccg cgagcgccgg cccacgcgtg gcccttcatt gtgtccctgc
  181 agctgcgcgg agggcacttc tgcggcgcca ccttgattgc gcccaacttc gtcattgtcg
  241 ccgcgcaact cgtggcggaat gtaaacgtcc gcgcgggtgc ggtggtcctg ggagccata
  301 acctctcgcg gcgggagccc acccggcagg tgttcgccgt gcagcgcatc ttcgaaaacg
  361 gctacgaccc cgtaaacttg ctcaacgaca tcgtgattct ccagctcaac gggtcggcca
  421 ccatcaacgc caacgtgcag gtggcccagc tgcgggtca gggacggcgc ctgggcaacg
  481 ggtgacgtg cctggccatg ggtggggccc ttctgggcag gaaccgtggg atcgccagcg
  541 tcttcagga gctcaacgtg acggtggtga cgtccctctg ccgtcgacgc aacgtctgca
  601 ctctcgtagg gggccggcag gccggcgtct gtttcgggga ctccggcagc cccttggtct
  661 gcaacgggct aatccacgga attgcctcct tcgtccgggg aggtgcgcc tcagggtctc
  721 accccgatgc ctttgccccg gtggcacagt ttgtaaactg gatcgactct atcatccaac
  781 gctccgagga caaccctgt cccaccccc gggaccgga cccggccagc aggaccact
  841 gagaagggtc gcccggtgca cctcagctgc ccacaccac actctccagc atctggcaca
  901 ataaacattc tctgttttgt

1 ttgtcagagc cccagctggt gtccaggagc tgaccgtgag cctgggtgaa agtgagttcc
  61 ccgttgaggg caccagacga ggagaggatg gaaggcctgg ccccaagaa tgagccctga
  121 ggttcaggag cggctggagt gagccgcccc cagatctccg tccagctgag ggtcccagag
  181 ccctgggtta cactcggagc tcctggggga ggcccttgac gtgctcagtt cccaacagg
  241 aacctggga aggaccagag aagtgcctat tgcgcagtga gtgcccgaca cagctgcatt
  301 tggccggtat cacaggggccc tgggtaaact gaggcaggcg acacagctgc atgtggccgg
  361 tatcacaggg ccctgggtaa actgaggcag gcgacacagc tgcattgtgg cggtatcaca
  421 gggccctggg taaactgagg caggcgacac agctgcattg ggccggtatc acaggccctc
  481 gggtaaaact aggcaggcga cacagctgca tgtggccggt atcacggggc cctggataaa
  541 cagaggcagg cgaggccacc cccatcaagt cctcaggtc taggtttggc caggtttgga
  601 aaaacacagc aacgctcgtt aaatctgaat ttcgggtaag tatatcctgg gcctcatttg
  661 gaagagactt agattaaaaa aaaaacgtcg agaccagccc ggccaacacg tgaacccccg
  721 tctctactaa aaatacaaaa aattagccag gcgcagtgct cagcctgtg atcccagcac
  781 tctgggaggt gaggcaggcg gatcacccga ggtcagctgt tcaagaccag cctggccgag
  841 tgggcgaaac actgtctcta ctacaaatac aaaaattagc cgggagtgga ggcaggtgcc
  901 tgtaattctc gctattcagg aggtgaggc aggagaatca cttgaacctg ggaggcggag
  961 gttgcccgtg gccgggatca cgccaccgca ctccagcctg ggcgatagag caagactctg
1021 tctccaaaaa aataaattaa aaaaaccaca ttgattatct gacatttgaa tccgattgtg
1081 catcctgaat tttgtctgga ggccccaccc gagccaatcc agcgtcttgt ccccctctc
1141 ccctttttca tcaacgcctg tgccagggga gaggaagtgg agggcgctgg ccggccgtgg
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1321 tgcctgtgtg cctgcggccc ttgctgtggt ggggtgagtt tttgagtcca acctccgct
1381 gctccctctg tcccgggttc tgttccacc tctccataga gggccccacc agtgtgggtc
1441 cctcatcctc acaggggagg tgccagctgg gacaaggaga ccagaagaga ctgaggttct
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1561 ttggcaggte gccctctggg ttcaagtcca ggtctgtctg tgccttgag gggcaccgtg
1621 gggaggtccc ttgctctcct cgtgcctcag ttctctcatc tgaacaacag gggtcgaaac
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1741 ggtcctttgg caggcactca gcacccgcac ccggtgtgtc cccaggcacc ggcgtggcct
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1921 ccgcgcaact cgtggcggaat cgtgtagtag ccgggagtg ggcgcggcgg ctcgaccccc
1981 gcgtcccggt ctgtgagggt ggtgggggga ggccggggcc ggggtgctgt gcgggggggg
2041 gtccgtccag ggcccgcggg gccctcagag cacttcgcc ctcaggcccg tcgcccgatg
2101 gggacgacaa ggcgcggtct agccccgacc cccggggccg cccctgagcc ccgcctctcc
2161 ctcttttggc agaaacgtcc gcgcggtgcg ggtggtcctg ggagcccata acctctcgcg
2221 gcgggagccc acccggcagg tgttcgctgt gcagcgcatc ttcgaaaacg gctacgcccc
2281 cgtaaacttg ctcaacgaca tcgtgattct ccaggtgccg ccgggcgggc gggggcgagg
2341 ggcggaggcc agaggcctgg ggagggtgga ggcctgggga ggggtgaggc tgcagcgagg
2401 gggcgcgctc gggccgctcg tggggacctg ggttgccatc gtgggctggg tggctccctc
2461 tccgcgcctc ggtctgcacc tctgtgaaac gggaaaaata ccgccatggg ccgttgaggg
2521 gttaaatgag atcctgcagg gaggcctcga tctgtgtca atcaacaaa ttaactgaaa
2581 gggaggcccc gatctgttgt caatcaacaa acttactgag aaggaggccc ccgatctgtt
2641 gtcaatcaac aaacttactg agaaggagg ccccgatctg ctgtcaatca acaaaacttac
2701 tgagaaggga ggccccgatg ttgtcaatca aaaaacttac tgagaaggga ggccccgatc
2761 tctgttcaat caacaaaact tactgagaag ggaggcccc atctgtgtc aatcatcaaa
2821 cttaactgaga agggaggccc cgatctgtct tcaatcaaca aacttactga gaaggaggc
2881 ccccgatctg ttgtcaatca aaaaacttac tgagaaggga ggccccgatc tctgtcaat
2941 caacaaaact actgagattc tgtgtgtctc tccattcacc agtccgtgtg cccaggcgag
3001 gggccgcctc tgtctttggg aaaaggggga aaagtcccca cctttccacc cctgtccgag
3061 gcttgaggtt ctggttattt cctggcgccc gggccccgtg gctcaggcct gtcattcccg
3121 cactttggga ggttgaggcg ggtggatcac gaggtcaggt gttcgagacc agcctgagca
3181 acatagttaa acccgtctc tactaaaata cacaaaaaaa aaattagccg agtgtggtg
3241 tgggtgcctg taatgccaac tactcaggag gctgaggga gagaatcgt tgaaccccg
3301 aggcggagat tgcagtgaac tgagatcaca ccactgcact ccagcctggg tctcaaaaaa
3361 aaaaaaaaaa attcctccct ggaagggtt agaggagag tttcctgtc actaagtttt
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3421 ctcatagctc tcacccagtg cagtggcgcg atcgagctc actacacctc catctcctgg  
3481 gctcaagcca cctctcagc ttggaatggg gggtagctgg aaccacaggt gccaccacgt  
3541 ggtccaccac gtctggctaa tatatatata tacacacaca catacatata ttataaataa  
3601 taaatatata ttttatttaa ataaaaataa taatatttat aattatttta taattataat  
3661 aatatttata taattataaa tatcatttat aattataata tttattattt tataaaataa  
3721 taaatataaa atatataaaa atatttttat aaataataaa atatatatat acacacatat  
3781 atatatattt tttgagacaa gtctcgctct gtgcccagg ctggagcgca gtgcacaatc  
3841 tcactcactg cactccgccc tcccaggttc aagcgattct cctgcctcag cctcccaggt  
3901 agctgggact acagggcgccc gccaccacgc ctggctaatt tttggtattg ttagtagaga  
3961 cgggggttaa ccatgttagc caggatggtc ttgatctcct gaccttttga ttggcccacc  
4021 tcagcctccc aaaatgctgg gattataggc gtgagcacg cacctggcaa ttttttttta  
4081 ttatttttgt agacatgggg ctttgccaca ttgcccaggc tggctctgaa tgcctggcct  
4141 ggcctaagtg atcctcctgc ctgcctccc caaagtgtcg ggcttacaag catgagccac  
4201 cgcgcccggc ttagtatttt ttgttaactg agcacctact gcttctgca ctcaagccac  
4261 atccagggac aacctccaac gccctgagcc ttgtgacgg ctccactct acagatgggg  
4321 aaaccgaggc ttgccttggg gagcagagtg tggggtgggt atcctgccct gcaggatccc  
4381 agaaccacag tggaacctga gatggggaaa ctgagggccg gagaggggag ggtcatcatc  
4441 actgcccgt gtgacgcgt gacgatctgt cccacccgccc acagctcaac ggtcgggcca  
4501 ccatcaacgc caacgtgacg gtggcccagc tggcggtca gggacgcgc ctgggcaacg  
4561 ggggtgcagt cctggccatg ggctggggcc ttctgggcag gaaccgtggg atcgccagcg  
4621 tctgcagga gctcaacgtg acggtgtgta cgtccctctg ccgtcgagc aacgtctgca  
4681 ctctcgtgag gggccggcag gccggcgtct gtttcgtacg tgcctgggtg gtccctctgc  
4741 tccccaccg ctcccagccc ggtactgcag caacaggcac cgtggctaga cctaggatg  
4801 ggacttccca accctgacac gtgcggcggc aggtgggcag ggctcgagc tccagcttcc  
4861 ccaccttgct tgcctccaca gggggactcc ggcagcccct tggctgcaa cgggctaatac  
4921 caggaattg cctccttctg ccggggaggc tgcgctcag ggctctaccc cgtgccttt  
4981 gccccgggtg cacagtgtgt aaactggatc gactctatca tccaacgctc cgaggacaac  
5041 cctgtcccc acccccggga cccggaccg gccagcagga cccactgaga agggctggccc  
5101 gggtcacctc agctgccac acccacactc tccagcatct ggcacaataa acattctctg  
5161 tttttagtaa tgtgtttgat gtccttggc tgtgtgattg ggtgttgaat atggtcagta  
5221 ggtcgggcgt ggtggctcac acctgtaac ccagcacttt gggaggttga ggcaggcgga  
5281 tcacttgagc tc

## (2) INFORMATION FOR SEQ ID NO:128:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1755 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:

1 ctattgcagt atctttcagc ttccagtctt atctgaagac cccggcacca aagtgaccag  
61 gaggcagaga agaacttcag aggagtctcg tcttgggctg cccgtgggtg agtggggaggg  
121 tccgggactg cagaccgggt gcgatggcca ctctcccagc agcagaaacc tggatagacg  
181 ggggtggagg cgtgggtgca gacgccgtga acctgaccgc ctgctagct gccggggcgg  
241 ccacgggggc agttgagact ggggtggctg aactgtgga ccaagctggc aaactctcct  
301 cctccccttc cgcgtggga ctgcctgtgg cttccccgc gccctcccag cctggggcca  
361 acctcaccaa ccagttcgtg cagcgtcct ggccatcgc gctctggtc ctggcgtagt  
421 gtgtgtgtgt ggcatggca gttttgggaa atctcatcgt catctggatc atctggccc  
481 acaagcgcag gaggactgtc accaactact tcttgtgaa cctggcttcc tccgacgct  
541 ccatggccgc cttcaacacg ttggtcaatt tcatctacgc gcttcatagc gagtggtagt  
601 ttggcgccaa ctactgccgc ttccagaact tctttcctat cacagctgtg ttcgccagca  
661 tctactccat gacggccatt gcggtggaca ggtatatggc tattattgat ccctgaaac  
721 ccagactgtc tgctacagca accaagattg tcattggaag tatttggatt ctagcatttc  
781 tacttgctt cctcagtgct ctttattcca aaaccaaagt catgccaggc cgtactctct  
841 gctttgtgca atggccagaa ggtcccaaac aacatttcac ttaccatatt atcgtcatta  
901 tactggtgta ctgtttccca ttgctcatca tgggtattac atacaccatt gttggaatta  
961 ctctctgggg aggagaaatc ccaggagata cctgtgacaa gtatcatgag cagctaaagg  
1021 ccaaaagaaa ggttgtcaaa atgatgatta ttgtgtcat gacatttgc atctgtggc  
1081 tgccctatca tatttacttc attctcactg caatctatca acaactaaat agatggaaat  
1141 acatccagca ggtctacctg gctagctttt ggctggcaat gagctcaacc atgtacaatc  
1201 ccatcatcta ctgctgtctg aataaaagat ttcgagctgg cttcaagaga gcatttcgt  
1261 ggtgtccttt catcaagatt tccagctatg atgagctaga gctcaagacc accaggtttc  
1321 atccaaaccg gcāaagcagt atgtacaccg tgaccagaat ggagtccatg acagtcgtgt  
1381 ttgaccccaa cgatgcagac accaccaggt ccagtcggaa gaaaagagca acgccaagag  
1441 acccaagttt caatggctgc tctcgagga attccaaatc tgcctccgcc acttcaagtt  
1501 tcataagctc accctatacc tctgtggatg aatattctta attccatttc ctgaggtaaa  
1561 agattagtgt gagaccatca tgggtgccagt ctaggacccc attctcctat ttatcagtc  
1621 tgtcctatat accctctaga aacagaaagc aatttttagg cagctatggt caaattgaga  
1681 aaggtagtgt ataaatgtga caaagacact aataacatgt tagcctccac ccaaaataaa  
1741 atgggcttta aattt

## (2) INFORMATION FOR SEQ ID NO:129:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 600 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:

```
1 ctgcagaccg gtggcgatgg ccctcctccc agcagcagaa acctggatag acgggggtgg
  61 aggcgtgggt gcagacgccg tgaacctgac cgcctcgcta gctgccgggg cggccacggg
 121 ggcagttgag actgggtggc tgcaactgct ggaccaagct ggcaacctct cctcctcccc
 181 ttccgcgctg ggactgcctg tgcgttcccc cgcgcctccc cagccctggg ccaacctcac
 241 caaccagttc gtgcagccgt cctggcgat cgcgctctgg tccctggcgt atggtgtggt
 301 ggtggcagtg gcagttttgg gaaatctcat cgtcatctgg atcatcctgg ccacaaagcg
 361 catgaggact gtcaccaact acttccttgt gaacctggct ttctccgacg cctccatggc
 421 cgccttcaac acgttgggtc atttcatcta cgcgcttcat agcagtggtg actttggcgc
 481 caactactgc cgcttccaga acttctttcc tatcacagct gtgttcgcca gcattactc
 541 catgacggcc attgcggtgg acaggtgagg agaggacaga cagagaggaa agaggagaa
```

(2) INFORMATION FOR SEQ ID NO:130:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 227 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:

```
1 ggtatatggc tattattgat cccttgaaac ccagactgtc tgctacagca accaagattg
  61 tcattggaag tatttggatt ctagcatttc tacttgcctt ccctcagtgt ctttattcca
 121 aaaccaaagt catgccaggc cgtactctct gctttgtgca atggccagaa ggtcccaaac
 181 aacatttcac gtaagttaat tctctattat ggttttcaat tcagttt
```

(2) INFORMATION FOR SEQ ID NO:131:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 201 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:131:

```
1 catgtgtttt tcttatttt catagttacc atattatcgt cattatactg gtgtactgtt
  61 tcccattgct catcatgggt attacatata ccattgttgg aattactctc tggggaggag
 121 aaatcccagg agatacctgt gacaagtatc atgagcagct aaaggccaaa agaaaggtag
 181 tgggtccatg tgttaccta g
```

(2) INFORMATION FOR SEQ ID NO:132:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 255 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:132:

```
1 caaatgactt tttctttata ggttgtaaaa atgatgatta ttgttgcatt gacatttgc
  61 atctgctggc tgccctatca tattacttc attctcactg caatctatca acaactaaat
 121 agatggaaat acatccagca ggtctacctg gctagctttt ggctggcaat gagtcaacc
 181 atgtacaatc ccatcatcta ctgctgtctg aataaaaagg aaaaacaaaa ctacgaaatg
 241 caagttgctt gtcac
```

(2) INFORMATION FOR SEQ ID NO:133:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 449 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

```
1 aaaataactt ttctttctgt ggctgtctt tctcagatt tcgagctggc ttcaagagag
  61 catttcgctg gtgtcctttc atcaaagttt ccagctatga tgagctagag ctcaagacca
 121 ccaggtttca tccaaaccgg caaagcagta tgtacaccgt gaccagaatg gagtccatga
 181 cagtcgtggt tgacccaac gatgcagaca ccaccaggtc cagtcggaag aaaagagcaa
 241 cgccaagaga cccaagttt aatggctgct ctgcaggaa ttccaaatct gcctccgcca
 301 cttcaagttt cataagctca cctatacct ctgtggatga atattcttaa ttccatttcc
 361 tgaggtaaaa gattagtgtg agaccatcat ggtgccagtc taggaccca ttctctatt
 421 tatcagtcct gtcctatata ccctctaga
```

(2) INFORMATION FOR SEQ ID NO:134:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3128 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

```
1 ctgcagaccg gtggcgatgg ccctcctccc agcagcagaa acctggatag acgggggtgg
  61 aggcgtgggt gcagacgccg tgaacctgac cgctcgcta gctgccggg cggccacggg
 121 ggcaagttag actgggtggc tgcaactgct ggcaacctct cctcctccc
 181 ttccgcgctg ggaactgcct tgcgttcccc cgcgccctcc cagccctggg ccaacctcac
 241 caaccagttc gtgcagccgt cctggcgat cgcgctctgg tccctggcgt atgggtgtgg
 301 ggtggcagt gcagttttg gaaatctcat cgtcatctgg atcatcctgg ccacaagcg
 361 catgaggact gtcaccaact acttcttctg gaacctggct ttctccgacg cctccatggc
 421 cgccttcaac acgttggtca atttcatcra cgcgcttcat agcagtggtt actttggcgc
 481 caactactgc cgcttcacga acttctttcc tatcacagct gtgttcgcca gcactactc
 541 catgacggcc attgcggtgg acagtgagg agaggacaga cagagaggaa agagggagaa

1 ctattgcagt atctttcage ttccagttct atctgaagac ccggcacca aagtaccag
  61 gaggcagaga agaacttcag aggagtctcg tcttgggctg cccgtgggtg agtgggaggg
 121 tccgggactg cagaccgtg gcgatggcca ctctccagc agcagaaacc tggatagacg
 181 ggggtggagg cgtgggtgca gacgccgtga acctgaccgc ctgctagct gccggggcgg
 241 ccacgggggc agttgagact ggggtggctg aactgctgga ccaagctggc aacctctct
 301 cctccccttc cgcgctggga ctgctgtggg ctcccccgcc gccctccagc ccttgggcca
 361 acctcaccaa ccagttctg cagccgtcct ggcgcctcgc gctctggctc ctggcgatg
 421 gtgtgggtgt ggcagtggca gtttgggaa atctcatcgt catctggatc atcctggccc
 481 acaagcgcat gaggactgtc accaactact tccttgtgaa cctggctttc tccgacgcct
 541 ccatggccgc cttcaacacg ttggtcaatt tcactacgc gcttcatagc gagtgggtact
 601 ttggcgccaa ctactgccg ttccagaact tcttctctat cacagctgtg ttccgacga
 661 tctactccat gacggccatt gcggtggaca ggtatatggc tattattgat cccttgaac
 721 ccagactgtc tgctacagca accaagattg tcattggaag tatttgatt ctagcatttc
 781 tacttgctt cctcagtggt ctttattcca aaaccaaagt catgccaggc cgtactctct
 841 gctttgtgca atggccagaa ggtcccaaac aacatttcac ttaccatatt atcgctatta
 901 tactgtgtga ctgtttccca ttgctcatca tgggtattac atacaccatt gttggaatta
 961 ctctctgggg aggagaaatc ccaggagata cctgtgacaa gtatcatgag cagctaaagg
1021 ccaaaagaaa ggttgtaaaa atgatgatta ttgtgtcat gacatttgct atctgtggc
1081 tgccctatca tatttacttc atttctactg caatctatca acaactaaat agatggaaat
1141 acatccagca ggtctacctg gctagctttt ggctggcaat gagctcaacc atgtacaatc
1201 ccatactcta ctgctgtctg aataaaagat ttccagctgg cttcaagaga gcatttcgct
1261 ggtgtccttt catcaaagtt tccagctatg atgagctaga gctcaagacc accagggttc
1321 atccaaaccg gcaaaagcgt atgtacaccg tgaccagaat ggagtcctat acagtcgtgt
1381 ttgaccccaa cgatgcagac accaccaggt ccagtcggaa gaaaagagca acgccaagag
1441 acccaagttt caatggctgc tctcgagga attccaaatc tgcctccgcc acttcaagtt
1501 tcataagctc accctatacc tctgtggatg aatattctta attccatttc ctgaggtaaa
1561 agattagtgt gagaccatca tgggtgccag ctaggacccc attctctat ttatcagtc
1621 tgctctatat accctctaga aacagaaagc aatttttagg cagctatggt caaattgaga
1681 aaggtagtgt ataaatgtga caaagacact aataacatgt tagcctccac ccaaaataaa
1741 atgggcttta aattt

1 ggtatatggc tattattgat cccttgaac ccagactgtc tgctacagca accaagattg
  61 tcattggaag tatttgatt ctagcatttc tacttgctt cctcagtggt ctttattcca
 121 aaaccaaagt catgccaggc cgtactctct gcttgtgca atggccagaa ggtcccaaac
 181 aacatttcac gtaagttaat tctctattat ggttttcaat tcagttt

1 catgtgtttt tcttatttt catagttacc atattatcgt cattatactg gtgtactgtt
  61 tccattgct catcatgggt attacatata ccattgttg aattactctc tggggaggag
 121 aatcccagg agatacctgt gacaagatc atgagcagct aaaggccaaa agaaggtac
 181 tggctccatg tgtttaccta g

1 caaatgactt tttctttata ggttgtaaaa atgatgatta ttgtgtcat gacatttgct
  61 atctgctggt tgccctatca tatttacttc atttctactg caatctatca acaactaaat
 121 agatggaaat acatccagca ggtctacctg gctagctttt ggctggcaat gagctcaacc
 181 atgtacaatc ccatcatcta ctgctgtctg aataaaaggt aaaaacaaaa ctacgaaatg
 241 caagttgctt gtcac

1 aaaataactt ttctttctgt ggcctgcttt tctcagatt tcgagctggc ttcaagagag
  61 catttcgctg gtgtcctttc atcaaagttt ccagctatga tgagctagag ctcaagacca
 121 ccaggtttca tccaaaccgg caaagcagta gtacaccgt gaccagaatg gactccatga
 181 cagtcgtgtt tgaccccaac gatgcagaca ccaccaggct cagtcggaag aaaagagcaa
 241 cgccaagaga cccaagtttc aatggctgct ctcgcaggaa ttccaaatct gcctccgcca
 301 cttcaagttt cataagctca cctatacct ctgtggatga atattcttaa ttccatttcc
 361 tgaggtaaaa gattagtgtg agaccatcat ggtgccagtc taggacccca ttctctatt
 421 tatcagtcct gtctatata cctctaga
```

(2) INFORMATION FOR SEQ ID NO:135:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2206 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:135:

```
1 ctagtctttc agccttcagg ctgtttttgg cttgaagctc tcttggcctc ctagtcttcta
  61 cctaatacatg tccctgggtg aggccatcag cctctggaat gaaggggtgc tggcagcgga
```

```

121 caagaaggac tgggaaggag ccctggatgc cttcagtgcc gtccaggacc cccactcccc
181 gatttgcttc aacattggct gcatgtacac tatcctgaag aacatgactg aagcagagaa
241 ggcctttacc agaagcatta accgagacaa gcacttggca gtggcttact tccaacgagg
301 gatgctctac taccagacag agaaatatga tttggctatc aaagacctta aagaagcctt
361 gattcagctt cgagggaaacc agctgataga ctataagatc ctggggctcc agttcaagct
421 gtttgccctgt gaggtgttat ataacattgc tttcatgtat gccaagaagg aggaatggaa
481 aaaagctgaa gaacagttag cattggccac gagcatgaag tctgagccca gacattccaa
541 aatcgacaag gcatggaggt gtgtctggaa gcagaagcta tatgagccag tgggtgatccc
601 tgtgggcaag ctgtttcgac caaatgagag acaagtggct cagctggcca agaaggatta
661 cctaggcaag gcgacggctg tggcatctgt ggtggatcaa gacagtttct ctgggtttgc
721 ccctctgcaa ccacaggcag ctgagcctcc acccagaccg aaaaccccag agatcttcag
781 ggctctggaa ggggaggctc accgtgtgct atttgggttt gtgcctgaga caaaagaaga
841 gctccaggtc atgccaggga acattgtctt tgtcttgaag aagggaatg ataactgggc
901 cacggtcatg ttcaacgggc agaaggggct tgttccctgc aactaccttg aaccagttga
961 gttgcggtac caccctcagc agcagcccca ggaggaaagc tctccgcagt ccgacatccc
1021 agtccctcct agttccaaag cccttgaaa accccagctg tcaccaggcc agaaacaaaa
1081 agaagagcct aaggaagtga agctcagtgt tcccatgccc tacacactca aggtgacta
1141 caagtacacg gtagtcatga agactcagcc cgggctcccc tacagccagg tccgggacat
1201 ggtgtctaa gaaactggagc tccggtgga acacactaag ctgagctatc ggcctcggga
1261 cagcaatgag ctggtgcccc tttcagaaga cagcatgaag gatgcctggg gccagggtgaa
1321 aaactactgc ctgactctgt ggtgtgagaa cacagtgggt gaccaaggct ttccagatga
1381 acccaaggaa agtgaaaaag ctgatgctaa taaccagaca acagaacctc agcttaagaa
1441 aggcagccaa gtggaggcac tcttcagtta tgaggctacc caaccagagg acctggagtt
1501 tcaggaaggg gatataatcc tgggtgttatc aaaggtgaat gaagaatggc tgggaagggga
1561 gtgcaaaagg aaggtgggca ttttcccaa agtttttgtt gaagactgag caactacaga
1621 tttgaaaagc actcggagag aagtctagga tgtttcaca actacaaagc tgaagaaaaa
1681 gaagccctat tacttgtttg taagattttag cacccttctg ctgtatactg tactgagaca
1741 ttacagtgtt gaagtgttaa ctattttatc cctgttaaaa tttaacctac tagacaatga
1801 tgtgagtacc caggatgatt tccctgggca cagtgggtga ggagatgggg acaggtgaat
1861 ggaggagtta ggggagagga aaagtggatg gaagtgtctg gaaagggcac gagagagtct
1921 tccaggtact gatcctgttt cttgctctga gtgctagcta gccagctgtg ttcacactgt
1981 aaacattcat caagctgtac atttggtgca cttttctgtg tcataaccaca ataaaaaaa
2041 acctcatc atcttacaaa aacaagacac ccaagtcag gcccaaggag taagtacaaa
2101 tattcctgtt tctgaacat tactgtaatt ggctcttaag gcttgaagta accttatagg
2161 ttactcataa ggcataata aataaacttg tttgttttct tttttc

```

## (2) INFORMATION FOR SEQ ID NO:136:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1739 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:136:

```

1 ctagtcttcc agccttcagg ctgtttttgg ctggaagctc tcttggcctc ctagtcttcta
61 cctaatacatg tccctgggtg aggcacatcag cctctggaat gaaggggtgc tggcagcgga
121 caagaaggac tgggaaggag ccctggatgc cttcagtgcc gtccaggacc cccactcccc
181 gatttgcttc aacattggct gcatgtacac tatcctgaag aacatgactg aagcagagaa
241 ggcctttacc agaagcatta accgagacaa gcacttggca gtggcttact tccaacgagg
301 gatgctctac taccagacag agaaatatga tttggctatc aaagacctta aagaagcctt
361 gattcagctt cgagggaaacc agctgataga ctataagatc ctggggctcc agttcaagct
421 gtttgccctgt gaggtgttat ataacattgc tttcatgtat gccaagaagg aggaatggaa
481 aaaagctgaa gaacagttag cattggccac gagcatgaag tctgagccca gacattccaa
541 aatcgacaag gcatggaggt gtgtctggaa gcagaagcta tatgagccag tgggtgatccc
601 tgtgggcaag ctgtttcgac caaatgagag acaagtggct cagctggcca agaaggatta
661 cctaggcaag gcgacggctg tggcatctgt ggtggatcaa gacagtttct ctgggtttgc
721 ccctctgcaa ccacaggcag ctgagcctcc acccagaccg aaaaccccag agatcttcag
781 ggctctggaa ggggaggctc accgtgtgct atttgggttt gtgcctgaga caaaagaaga
841 gctccaggtc atgccaggga acattgtctt tgtcttgaag aagggaatg ataactgggc
901 cacggtcatg ttcaacgggc agaaggggct tgttccctgc aactaccttg aaccagttga
961 gttgcggtac caccctcagc agcagcccca ggaggaaagc tctccgcagt ccgacatccc
1021 agtccctcct agttccaaag cccttgaaa accccagctg tcaccaggcc agaaacaaaa
1081 agaagagcct aaggaagtga agctcagtgt tcccatgccc tacacactca aggtgacta
1141 caagtacacg gtagtcatga agactcagcc cgggctcccc tacagccagg tccgggacat
1201 ggtgtctaa gaaactggagc tccggtgga acacactaag ctgagctatc ggcctcggga
1261 cagcaatgag ctggtgcccc tttcagaaga cagcatgaag gatgcctggg gccagggtgaa
1321 aaactactgc ctgactctgt ggtgtgagaa cacagtgggt gaccaaggct ttccagatga
1381 acccaaggaa agtgaaaaag ctgatgctaa taaccagaca acagaacctc agcttaagaa
1441 aggcagccaa gtggaggcac tcttcagtta tgaggctacc caaccagagg acctggagtt
1501 tcaggaaggg gatataatcc tgggtgttatc aaaggtgaat gaagaatggc tgggaagggga
1561 gtgcaaaagg aaggtgggca ttttcccaa agtttttgtt gaagactgag caactacaga
1621 tttgaaaagc actcggagag aagtctagga tgtttcaca actacaaagc tgaagaaaaa
1681 gaagccctat tacttgtttg taagattttag cacccttctg ctgtatactg tactgagaca

```



1741 ttacagtttg gaagtgttaa ctatttattc cctgttaaaa ttaacctac tagacaatga  
 1801 tgtgagtacc caggatgatt tcctggggca cagtgggtga ggagatggg acaggtgaat  
 1861 ggaggagtta ggggagagga aaagtggatg gaagtgtctg gaaagggcac gagagagtct  
 1921 tccaggtact gatcctgttt cttgctctga gtgctagcta gccagctgtg ttcacactgt  
 1981 aaacattcat caagctgtac atttggtgca cttttctgtg tcataccaca ataaaaaaaa  
 2041 acctatcatc atcttacaaa aacaagacac ccaagtccag gcccaaggag taagtacaaa  
 2101 tattcctgtt tctgaacat tactgtaatt ggctcttaag gcttgaagta accttatagg  
 2161 ttactcataa ggcataata aataaacttg ttgttttct tttttc

## (2) INFORMATION FOR SEQ ID NO:137:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 273 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:137:

1 gcagagctgg gcaccacagg gagctaggct ctgtgagccg tggctcatct cacacctcct  
 61 cactgccttg catcatggcc atgtctggac cttctctcc tcaggccttt accagaagca  
 121 ttaaccgaga caagcacttg gcagtggctt acttccaacg agggatgctc tactaccaga  
 181 cagagaagta agtggttcaa tgtgcacca actggaggat ttcagagaga aaccaaggg  
 241 gtctcagtgt tgcgggcttg gtgtttgagc agt

## (2) INFORMATION FOR SEQ ID NO:138:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 420 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:138:

1 ggtcagaagg aactgaaagg cttctgttcc cagtgaagata gctggggaag ggagaagcag  
 61 actcacattt tatgtctgat ttatttctcc atccactaga ctgctgattt tctcctctg  
 121 tcctggagat atgatttggc tatcaaagac cttaaagaag ccttgattca gcttcgaggg  
 181 aaccagctga tagactataa gatcctgggg ctccagttca agctgtttgc ctgtgaggtg  
 241 aggagaacag ggcctggctg ggcaggaggg gatcatggct ggatggatgg ctgacagtca  
 301 gatgcacagt gatctgttga cactccagg agcttgaaa agccatttct cctctgcctt  
 361 gagactcaga tttccttga agaaaagact gagatggatt atttcaggct catcaaggca

## (2) INFORMATION FOR SEQ ID NO:139:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 780 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:139:

1 ttccctggca ccttgatttg gagtagtctc aagttttatg ttgcggtct gtacttttct  
 61 aggtgttata taacattgct ttcatgtatg ccaagaagga ggaatggaaa aaagctgaag  
 121 aacagttagc attggccacg agcatgaagt ctgagcccag acattccaaa atcgacaagg  
 181 cgatggagtg tgtctgggta agcgtatttg tgatgcaggt gttgagagga tgtcactgga  
 241 ttctcatttg tctcagagga catgccattg agaagccata aaagtgggct ttttactttc  
 301 tgtgagtctg ggtaacactg atcttagggt atagtccac ttaagatctt gaatctgtgc  
 361 tgagaagctg aggcctagag tatgggatgg cagagcctgg catcacacca cccttggagt  
 421 ggggctcctt ggcaatgcag gagaacagga tattggatgc tggagcagtg ctgcacagac  
 481 tctaagcact gagagggcag agtccatgtc tgcttgatca cactgagtc ctacagcct  
 541 ggcacagtgc taggcacat aacagctctc agcaaaaatg ttttgttttg ttttgagatg  
 601 gagtctcgct ctgttgccca gcctggagtg cagtgggtgt atctcagctc actgcagcct  
 661 ctgcctcctg ggttcaagca attctgtctc ctcagccgcc caagtagctg ggattacagg  
 721 tgcatgccac catgcctggc taatttttgt atttttaata gagacggggt ttgacctgt

## (2) INFORMATION FOR SEQ ID NO:140:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 278 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:140:

1 gaattcttgc atctattcac tgaggagggc aggacaagca tcgtcacccc cattttcaca  
 61 taaggggaatg ctacttttc tgtgttacag aagcagaagc tatatgagcc agtgggtgatc  
 121 cctgtgggca agctgtttcg accaaatgag agacaagtgg ctgagctggc caagaaggat  
 181 tacttaggca aggcgacggg aggtgggatt gctcagcttc ccctgagctc tcctgtggcc  
 241 cgggcatgtg gagcaagggt ggagggactc ttgagaag

## (2) INFORMATION FOR SEQ ID NO:141:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:141:

```
1 gcaggagaat cacttgaacc tggaaggcag aggttgacgt gagctgagtc actccactgc
 61 actccagtct gggtaacaga gcgtgctccg tctcaaaaaa aaaaaaaaaa aaaaagataa
121 tttgatgtta tacaaattgc acctcaatta aaaacatttc tttttaaga gagaagaaag
181 caagcctgtg ttagcagggg tgggtgaat gctcgtttct tcagttgctg aaatcctaata
241 ccagaggctc aggaatctaa tccttagtta ctgtccacgt ctgaaaccag gctcacgttaa
301 gaacaggctc agggcatgag caaagaggga gaccagaag aatggaaaca gtgctggcag
361 agcctcacac cctcctgtcc ttgatttag gtcgtggcat ctgtgggtga tcaagacagt
421 ttctctgggt ttgccctct gcaaccacag gtaaggcagt cctgaccttc tccatggacc
481 taggtctcga gagctttctg tgaagcattc aattcgagag actatgtgtg ctgagttgcc
541 tgattgtaag ggctccttca agtgccctc agtgacgtcg aggattctgc ctgccctctc
601 tcagtcctgg tttccatggc tggtaggaa ataaggcagt gtcaggcttc accccaagtc
661 ctctgaagct aactctcctg cttcccaca aatgccggtc ttcac
```

## (2) INFORMATION FOR SEQ ID NO:142:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:142:

```
1 actgaattgc tgtgctagt aaacctgtac ctgggagctg gtgggaggtg ttatttccca
 61 gtgttttagt aggggtgactg tgccctcttc ctagacagtg ttctcatcag tcagaaatgc
121 gttatttgat tttctggtct ggaagaatgc tcaaattacc attagccgtt tgtgtctct
181 cccctgcttt cctcattgc cttttccgtt ttcacttctc ctgaatgttc aataggcagc
241 tgagcctcca ccagaccga aaacccaga gatcttcagg taagttagat tcaaatccat
301 aaatagaata tcaagcgcca agcctgagct gatggcaaga aaggaggga agaagatgaa
361 ggtgggtgca ggttctaaat cttgttgat tttctggaat gtcaggcttc tctagaatg
421 tcaggctaga aaggaatgcc tagaagaatg tcttctagaa tgtcaggcta gaaaggaatg
481 atatatggg atggagctct tgactgtgtg ggggctggcc atcagggtt ggctgcagct
541 acgtggtcca ttggccctct gtccacgtgc acagccacca catgcagggt ttgtgctgag
601 ggcagtgtgt cctgtggaac atagctacct gggaccagat gctgacctca ggttgagat
661 cgttttcgca ctggctgcag tcctctgacg gggcaggcca gagctctct
```

## (2) INFORMATION FOR SEQ ID NO:143:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 849 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:143:

```
1 tgagcagtg acaccagttt cttgctgaga cctcttgac ccaggcaggc tcagtgtcat
 61 ctccgagctt gcagttagat gtggagttag agccaggctg agccaagtcc ctggctccaa
121 gttcagtgta tttgcgccat ggcacatgt gaggggatgg gggctggatc ttgtgtctat
181 cctctgcagg gctctggaag gggaggctca ccgtgtgcta tttgggttg tgccctgagac
241 aaaagaagag ctccaggtca tgccaggga cattgtcttt gcttgaaga agggcaatga
301 taactgggcc acggtcatgt tcaacgggca ggtatgcaga ggcagggg ctggtgcgat
361 gggcatggga tcctggcagc aaatgcagtc tctgtggagc agtatctgct gccttcttg
421 cagaccagcc aagttctttt gtctgttcgt catcccttcc ccaggactct gggtgttct
481 gtggtgtggg tactgatgag cacatcttta tttttcctt tctgattctg ttgtgctgca
541 ctgcagaagg ggcttgttcc ctgcaactac cttgaaccag ttgagctgcg gatccaccct
601 cagcagcagc cccaggtaat gtgatgccaa ggcctgacct atttctctc accctttag
661 atctctccct ggaggagaa aagcagtgt aaagaggtgt tgtcaggacc cctggagaaa
721 gattcactag tcttgagccc gccttgagat ggcaccagct acccagagct gaacctggga
781 atgaggggaa aaaagcccag atgtgctaag ttggaggcat ctgtaggtcc cattggccca
841 cccacctct
```

## (2) INFORMATION FOR SEQ ID NO:144:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 308 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:144:

```
1 aatgtcacta ccattccaac ttttaggacg ttatctgcat gtggctcctt tacatgggg
 61 ctctgtagg gtgtttccc acatccacc ctgcctggga actttgaatg aaggttctga
121 ccctcgtcc ctgttgcctt caggaggaaa gctctccgca gtccgacatc ccagctctc
```

181 ctagtgtccaa agcccctgga agacccacag tgtcaccagg tgagtgggtcc tggagccaca  
241 gcctaggttt ggggtgcagca gcatgccagg tgttctgag ttcctctccc tgctttccag  
301 gaaattct

## (2) INFORMATION FOR SEQ ID NO:145:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 463 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:145:

1 gactgagttt gttcatgtgt tcatgacctt catgcttccc cagggcgaga tttcccaca  
61 gtttactaag gtttaataatt gccccacaaa ttaaagggtta agaggttggg ggccttattt  
121 gaagaggttt catctgtgtg tggcaggggc tggccaagga tgttcattca ccatcttctt  
181 ttgttttact cctactttt tccattcagg ccagaaacaa aaagaagagc ctaaggtaac  
241 atttttccct catactgttt caagtggtag aagatgggat agcttgggt atcaaccaca  
301 gacatgtctg tctggattat aggaagagcc caaaggaggg tcgaaccagt tgctacctta  
361 cagagtccat gagctagga ccttcttaat agcctctcc actatcatgc acacacttcc  
421 tactacccaa gctagtggc cagatcttac tcagtaggaa ttc

## (2) INFORMATION FOR SEQ ID NO:146:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 784 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:146:

1 gaattcctgt ccaagcaagg gttgggctaa aggacctctg aaggcctttt aggtactgt  
61 gaaaccagtt acttactggc ctctcccctg ctgtattggg taccctctgt gccaaatcac  
121 gaaactgagg tgatccagga tgttgagaga aagcctcaga cactcaggag ttccctttgt  
181 ttcctcccca ctcaggaagt gaagctcagt gttcccatgc cctacacact caaggtgcac  
241 tacaagtaca cggtagtcac gaagactcag cccgggctcc cctacagcca ggtccgggac  
301 atggtgtcta agaaactgga gctccggctg gaacacacta agctgaggtg agtccatgc  
361 aggcagctgt gaggggtaca gtgggaacct tgtgctggcc tggaggaggg aagaggagga  
421 tggtttttgt gatgatgttc tttgactgga ttcttactca ttatccccac ccagctatcg  
481 gcctcgggac agcaatgagc tggtgccctt ttcagaagac agcatgaagg atgcctgggg  
541 ccaggtgaaa aactactgcc tgactctgtg gtgtgagaac acagtgtgga gtgcaatgag  
601 gggcatctaa agttacattt ccactgagcc acttcctcaa caatttgaaa ttatcaagc  
661 accttctgtg tactaggcac tatatgtggt gttggggata tgggtgtgta taagtacag  
721 ctctgcctcc cttttacctg catcctcacc ccatttgag caggagaga gtttcccaca  
781 agag

## (2) INFORMATION FOR SEQ ID NO:147:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 450 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:147:

1 ttcataaaga gcatataagc tctacacaag gcactgatca caaactttat gagtttatat  
61 cccaggttct actttgacat ttcgtgttt cctttagtga tgttcagtgt tcacttggca  
121 ggaaattggg aaaattaaca ggcctttat tatttcaggg tgaccaaggc tttccagatg  
181 aacccaagga aagtgaaaaa gctgatgcta ataaccagac aacagaacct cagcttaaga  
241 aaggcagcca agtgagggca ctcttcagtt atgaggctac ccaaccagag gacctggagt  
301 ttcaggaagg gatatatac ctggtgttat caaagggtaa gtgctactcc aagactatag  
361 aaacaaattt acatgttagc agaaacaagg tcaagggcag agagaagaaa tatcaataat  
421 ctacaacaaa aactttagcc agtgttttca

## (2) INFORMATION FOR SEQ ID NO:148:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1145 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:148:

1 gtcaattctt gacctcttc tctatctggt aactttttga aaaacataat ttatcctctc  
61 ttcattttgc tcattatcat gtttaagaca gatcaataag atggttaaac cctgtgttca  
121 ctctcaaacc actttgcaat actgtctttt cctgtttgat cacaattagg ggtggggaag  
181 ggtgaccgat aacaaattct gtgtgggaata gccagacagg gtaattcttc tacagtgggt  
241 ttagaatatcc atgtgtactt ttccttttat cagtgaatga agaattggctg gaaggggagt  
301 gcaaagggaa ggtgggcatt ttccccaag tttttgttga agactgcgca actacagatt

361 tggaaagcac tcggagagaa gtctaggatg tttcacaaac tacaaagctg aagaaaatga  
421 agccctatta cttgtttgta agatttagca ccttctgct gtatactgta ctgagacatt  
481 acagtttggga agtgttaact atttattccc tgttaaaatt taacctacta gacaatgatg  
541 tgagtaccca ggatgatttc ctggggcaca gtgggtgagg agatggggac aggtgaatgg  
601 aggagttagg ggagaggaaa agtggatgga agtgtctgga aagggcacga gagagtcttc  
661 caggtactga tcctgtttct tgctctgagt gctagctagc cagctgtgtt cacactgtaa  
721 acattcatca agctgtacat ttgtgacact tttctgtgtc ataccacaat aaaaaaaac  
781 ctatcatctt acaaaaacaa gacaccaag tccaggccca aggagtaagt acaaatattc  
841 ctgtttctga accattactg taattggctc ttaaggcttg aagtaacctt ataggttact  
901 cataaggcat atacaataaa acttgtttgt tttctttttt cattatgtct tgttgcttaa  
961 acagaaccta gactgagtta ggttctcatg gactacaaca ctcaattcca cagagaatta  
1021 atagaattac atacctttgt acattctcag agaggaacat gtgttaagaa ctcaatactg  
1081 aatatataac aatcgccaac atttaagtga tgaaaagcag cggtgttcat gaagctagtt  
1141 cgtaa

## (2) INFORMATION FOR SEQ ID NO:149:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 75 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:149:

1 gtcacatcgc cctgctgggc ttgagaagc gcttcgtacc cagccagcac tatgtgtaca  
61 tgttctggt gaaat

## (2) INFORMATION FOR SEQ ID NO:150:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10335 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:150:

1 ctagtctttc agccttcagg ctgtttttgg cttgaagctc tcttgccctc ctagtcttcta  
61 cctaatacatg tccctgggtg aggccatcag cctctggaat gaaggggtgc tggcagcgga  
121 caagaaggac tggaaggag ccctggatgc cttcagtgc gtccaggacc cccactccc  
181 gatttgcttc aacattggct gcatgtacac tatcctgaag aacatgactg aagcagagaa  
241 ggcctttacc agaagcatta accgagacaa gcacttggca gtggcttact tccaacgagg  
301 gatgctctac taccagacag agaaatatga tttggctatc aaagacctta aagaagcctt  
361 gattcagctt cgaggaacc agctgataga ctataagatc ctggggctcc agttcaagct  
421 gtttgccctg gaggtgttat ataacattgc tttcatgtat gccaagaagg agaatggaa  
481 aaaagctgaa gaacagttag cattggccac gagcatgaag tctgagccca gacattccaa  
541 aatcgacaag gcgatggagt gtgtctggaa gcagaagcta tatgagccag tgggtgatccc  
601 tgtgggcaag ctgtttcgac caaatgagag acaagtggct cagctggcca agaaggatta  
661 cctaggcaag gcgacggctg tggcatctgt ggtggatcaa gacagtcttct ctgggtttgc  
721 cctctgcaa ccacaggcag ctgagcctcc acccagaccg aaaaccccag agatcttcag  
781 ggctctggaa ggggaggtc accgtgtgct atttgggttt gtgcctgaga caaaagaaga  
841 gtcctaggtc atgccaggga acattgtctt tgtcttgaag aagggcaatg ataactgggc  
901 cacggtcatg ttcaacgggc agaaggggct tgttccctgc aactaccttg aaccagttga  
961 gttgcggatc caccctcagc agcagcccca ggaggaaagc tctccgcagt ccgacatccc  
1021 agctcctcct agttccaaag cccctggaaa accccagctg tcaccaggcc agaaacaaaa  
1081 agaagagcct aaggaagtga agctcagtg tcccatgccc tacacactca aggtgcacta  
1141 caagtacacg gtatgcatga agactcagcc cgggctcccc tacagccagg tccgggacat  
1201 ggtgtctaag aaactggagc tccggctgga acacactaag ctgagctatc ggcctcgga  
1261 cagcaatgag ctgggtcccc ttccagaaga cagcatgaag gatgcctggg gccaggtgaa  
1321 aaactactgc ctgactctgt ggtgtgagaa cacagtgggt gaccaaggct ttccagatga  
1381 acccaaggaa agtgaaaaag ctgatgctaa taaccagaca acagaacctc agcttaagaa  
1441 aggcagccaa gtggaggcac tcttcagtta tgaggctacc caaccagagg acctggagtt  
1501 tcaggaaggg gatataatcc tgggtttatc aaaggtgaat gaagaatggc tgggaaggga  
1561 gtgcaaaagg aaggtgggca ttttcccaa agttttgtt gaagactgcg caactacaga  
1621 tttggaaagc actcggagag aagtctagga tgtttcaca actacaaagc tgaagaaaat  
1681 gaagccctat tacttgtttg taagatttag cacccttctg ctgtatactg tactgagaca  
1741 ttacagtttg gaagtgttaa ctatttatc cctgttaaaa ttaacctac tagacaatga  
1801 tgtgagtacc caggatgatt tcctggggca cagtgggtga ggagatggg acaggtgaat  
1861 ggaggagtta ggggagagga aaagtggatg gaagtgtctg gaaagggcac gagagagtct  
1921 tccaggtact gatectgttt cttgctctga gtgctagcta gccagctgtg ttcacactgt  
1981 aaacattcat caagctgtac atttgggtga cttttctgtg tcataccaca ataaaaaaa  
2041 acctatcatc atcttacaaa aacaagacac ccaagtccag gccaaaggag taagtacaaa  
2101 tattcctgtt tctgaacat tactgtaatt ggctcttaag gcttgaagta acctatagg  
2161 ttactcataa ggcataata aataaacttg tttgttttct tttttc  
1 ctagtctttc agccttcagg ctgtttttgg cttgaagctc tcttgccctc ctagtcttcta  
61 cctaatacatg tccctgggtg aggccatcag cctctggaat gaaggggtgc tggcagcgga  
121 caagaaggac tggaaggag ccctggatgc cttcagtgc gtccaggacc cccactccc  
181 gatttgcttc aacattggct gcatgtacac tatcctgaag aacatgactg aagcagagaa

241 ggcctttacc agaagcatta accgagacaa gcacttggca gtggcttact tccaacgagg  
301 gatgctctac taccagacag aaaaatata tttggctaic aaagacctta aagaagcctt  
361 gattcagctt cgagggaacc agctgataga ctataagatc ctggggctcc agttcaagct  
421 gtttgctgt gaggtgttat ataacattgc tttcatgtat gccagaagg aggaatggaa  
481 aaaagctgaa gaacagttag cattggccac gagcatgaag tctgagccca gacattccaa  
541 aatcgacaag gcgatggagt gtgtctggaa gcagaagcta tatgagccag tgggtatccc  
601 tgtgggcaag ctgtttcgac caaatgagag acaagtggct cagctggcca agaagatta  
661 cctaggcaag gcgacggtcg tggcatctgt ggtggatcaa gacagtttct ctgggtttgc  
721 ccctctgcaa ccacaggcag ctgagcctcc acccagaccg aaaaccccag agatcttcag  
781 ggctctggaa ggggaggctc accgtgtgct atttgggttt gtgcctgaga caaaagaaga  
841 gctccaggtc atgccaggga acattgtctt tgtcttgaag aagggcaatg ataactgggc  
901 cacggtcatg ttcaacgggc agaaggggct tgttccctgc aactaccttg aaccagttga  
961 gttgcggatc caccctcagc agcagcccca ggaggaaagc tctccgcatg ccgacatccc  
1021 agctcctcct agttccaaag cccctggaaa accccagctg tcaccaggcc agaaacaaaa  
1081 agaagagcct aaggaaagtga agctcagtggt tcccatgccc tacacactca aggtgacta  
1141 caagtacacg gtagtcatga agactcagcc cggtctcccc tacagccagg tccgggacat  
1201 ggtgtctaaag aaactggagc tccggctgga acacactaag ctgagctatc ggcctggga  
1261 cagcaatgag ctggtgcccc tttcagaaga cagcatgaag gatgcctggg gccagtgaa  
1321 aaactactgc ctgactctgt ggtgtgagaa cacagtgggt gaccaaggct ttccagatga  
1381 acccaaggaa agtgaanaag ctgatgctaa taaccagaca acagaacctc agcttaagaa  
1441 aggcagccaa gtggaggcac tcttcagtta tgaggctacc caaccagagg acctggagtt  
1501 tcaggaaagg gatataatcc tgggtttatc aaagtgaaat gaagaatggc tgaagggga  
1561 gtgcaaggga aaggtgggca ttttcccaa agtttttgtt gaagactgag caactacaga  
1621 tttgaaagc actcggagag aagtctagga tgtttcacia actacaaagc tgaagaaaat  
1681 gaagccctat tacttgtttg taagatttag cacccttctg ctgtatactg tactgagaca  
1741 ttacagtgtg gaagtgttaa ctattttatc cctgttaaaa ttttaacctg tagacaatga  
1801 tttgagtacc caggatgatt tcttggggca cagtgggtga ggagatggg acaggtgaa  
1861 ggaggagtta ggggagagga aaagtggatg gaagtgtctg gaaagggcac gagagagtct  
1921 tccaggtact gatcctgttt ctgtctctga gtgctagcta gccagctgtg ttcacactgt  
1981 aaacattcat caagctgtac atttgggtgca cttttctgtg tcataccaca ataaaaaaa  
2041 acctatcatc atcttcaaaa aacaagacac ccaagtccag gcccaaggag taagtacaaa  
2101 tattctgtt tctgaacct tactgttaatt ggctcttaag gcttgaagta accttatagg  
2161 ttactcataa ggcatatata aataaacttg tttgttttct ttttct  
1 gcagagctgg gcaccacagg gagctaggct ctgtgagccg tggctcatct cacacctcct  
61 cactgccttg catcatggcc atgtctggac cttctctccc tcaggccttt accagaagca  
121 ttaaccgaga caagcacttg gcagtggctt acttccaacg agggatgctc tactaccaga  
181 cagagaagta agtggttcaa tgttgacca actggaggat ttcagagaga aacccaaggg  
241 gtctcagtg tgcgggcttg gtgtttgagc agt  
1 ggtcagaagg aactgaaagg cttctgtcc cagtgagata gctggggaag ggagaagcag  
61 actcacattt tatgtctcat ttattttctc atccactaga ctgctgattt tctccctctg  
121 tcttgagat atgatttggc tatcaaagac cttaaagaag ccttgattca gcttcgaggg  
181 aaccagctga tagactataa gatcctgggg cttcagttca agctgtttgc ctgtgagta  
241 aggagaacag ggcctggctg ggcaggaggg gatcatggct ggatggatgg ctgacagtca  
301 gatgcacagt gatctgttga cactccagg agcttgaaa agccatttct cctctgcctt  
361 gagactcaga ttttcttga agaaaagact gagatggatt atttcaggct catcaaggca  
1 ttccttgga ccttgatttg gtagtctc aagttttatg tttgcgtct gtactttct  
61 aggtgttata taacattgt ttcattgatg ccaagaagga ggaatggaaa aaagctgaag  
121 aacagttagc attggccacg agcatgaagt ctgagcccag acattccaaa atcgacaagg  
181 cgatggagtg tgtctgggta agcgtattgg tgatgcaggt gttgagagga tgtcactgga  
241 ttctcatttg tctcagagga catgccattg agaagccata aaagtgggtc ttttactttc  
301 tgtgagtctg ggtaacactg atcttagggg atagtccac ttaagatctt gaatctgtgc  
361 tgagaagctg aggcctagag tatgggatgg cagagcctgg catcacacca cccctggagt  
421 ggggtcctt ggcaatgcag gagaacagga tattggatgc tggagcagtg ctgcacagac  
481 tctaagcact gagaggcag agtccatgtc tgcttgatca ccactgagtc ctcacagcct  
541 ggcacagtgc taggcacat aacagctctc agcaaaaatg ttttgtttt ttttgatg  
601 gagtctgct ctgttgccca gcctggagt cagtgggtg atctcagctc actgcagcct  
661 ctgcctcctg ggttcaagca attctgtctg ctcagccgac caagtagctg ggattacagg  
721 tgcatgccac catgctgtgc taatttttgt atttttaata gagacggggg tttgccatgt  
1 gaattcttgc atctattcac tgaggaggc aggacaagca tctcaccct cattttcaca  
61 taagggaatg ctacgttttc tgtgttacag aagcagaagc tatatgagcc agtgggtgac  
121 cctgtgggca agctgtttcg accaaatgag agacaagtgg ctgagctggc caagaaggat  
181 tacctaggca aggcgacggt aggtgggatt gctcagcttc ccctgagtct tctgtggcc  
241 cgggcatgtg gagcaagggt ggagggactc ttgagaag  
1 gcaggagaat cacttgaacc tggaaggcag aggttgagct gagctgagtc actccactgc  
61 actccagctt gggtaacaga gcgtgctccg tctcaaaaaa aaaaaaaa aaaaagataa  
121 tttgatgta tacaatttg accctaatta aaaacatttc ttttttaaga gagaagaa  
181 caagcctgtg ttagcagggg tgggtgaaat gctcgtttct tcagttgtgt aaatccta  
241 ccagaggctc aggaatctaa tcttagtta ctgtccacgt ctgaaaccag gctcacgtaa  
301 gaacaggtct agggcatgag caaagaggga gaccagaag aatggaaaca gtgctggcag  
361 agcctcacac cctcctgtcc ttgattttag gtcgtggcat ctgtgggtga tcaagacagt  
421 ttctctgggt ttgcccctct gcaaccacag gtaaggcagt cctgaccttc tccatggacc  
481 taggtctcga gagctttctg tgaagcattc aattcgagag actatgtgt ctgagttgct  
541 tgattgtaag ggctccttca agtggccctc agtgcagctg aggtattctg ctgcccctc  
601 tcagtcttgg tttccatggc tggtaggaa ataaggcagt gtcaggcttc accccaagtc  
661 ctctgaagct aactctcctg cttccccaca aatgccggtc ttcac

1 actgaattgc tgtgctagt aaacctgtac ctgggagctg gtgggaggtg ttatttccca  
61 gtgttttagtc aggggtgactg tgccctcttc ctgacacagt ttctcatcag tcagaaatgc  
121 gttatttgat ttctgtgtct ggaagaatgc tcaaattacc attagccgtt tgtgtctct  
181 cccctgcttt cctcattgc cttttccgtt ttcacttctc ctgaattgtc aataggcagc  
241 tgagcctcca cccagaccga aaacccaga gatcttcagg taagttagat tcaaatccat  
301 aaatagaata tcaagcgcca agcctgagct gatggcaaga aaggaggaga agaagatgaa  
361 ggtgggttca ggggtctaat tctgttgat tttctggaat gtcaggcttc tctagaatg  
421 tcaggctaga aaggaatgcc tagaagaatg tcttctagaa tgtcaggcta gaaaggaatg  
481 atatatggg atgggagct tgaactgtgt ggggctggcc atcagggtt ggtgagct  
541 acgtggtcca ttggccctct gtccacgtgc acagccacca catgcagggt ttgtgctgag  
601 ggcagtggt cctgtggaac atagctacct gggaccagat gctgacctca ggttgagat  
661 cggtttcgca ctggctgcag tctctgacg gggcaggcca gagctctct  
1 tgagcagtg acaccagtt cttgctgaga cctcttgac ccaggcaggc tcagtgtcat  
61 ctggcagtt gcagtttagt gtggagttag agccaggctg agccaagtcc ctggctccaa  
121 gttcagtga ttgctgccat ggcacatgt gaggggatgg gggctggatc ttgtgtctat  
181 cctctgcagg gctctggaag gggaggctca cctgtgtcta tttgggtttg tgctgagac  
241 aaaagaagag ctccagggtca tgccaggga cattgtcttt gtcttgaaga agggcaatga  
301 taactgggac acggtcatgt tcaacgggca ggtatgcaga ggatcagggt ctggtgcgat  
361 gggcatggga tcttggcagc aaatgcagtc tctgtggagc agtatctgt gccttctttg  
421 cagaccagcc aagtctcttt gtctgttctg catcccttcc ccaggactct gggctgttct  
481 gtggtgtgg tactgatgag cacatcttta tttttctct tctgattctg ttgtgtgca  
541 ctgcagaagg ggttgttcc ctgcaactac cttgaaccag ttgagctgg gatccacct  
601 cagcagcagc cccaggtaat gtgatgcaa ggcctgacc atttctctc accttttagg  
661 atctctccct ggaggagaa aagcagtgt aaagagggt tgtcaggacc cctggagaaa  
721 gattcactag tcttgagccc gccttgagat ggcaccagct accagagct gaacctggga  
781 atgaggggaa aaaagcccag atgtgctaag ttggaggcat ctgtaggctc cattggccca  
841 cccacctct  
1 aatgtcacta ccattccaac ttttaggacg ttatctgcat gtggctcctt tacatggggg  
61 ctctgtagg gtgtttcccc acatccacc ctgcctggga actttgaatg aaggttctga  
121 ccactgctcc ctgttgcctt caggaggaaa gctctccgca gtccgacatc ccagctctc  
181 ctagtccaa agcccctgga agaccacagc tgtaccagg tgagtgttcc tggagccaca  
241 gcctagggtt ggggtgcagc gcatgccagg tgttctgag ttcctctccc tgccttcag  
301 gaaattct  
1 gactgagttt gttcatgtgt tcatgacct catgcttccc cagggcgaga tttccccaca  
61 gtttactaag gtttaataatt gccccacaaa ttaaagggtg agaggttggg ggcctattt  
121 gaagaggttt catctgtgtg tggcaggggc tggccaagga tgttcattca ccacttctt  
181 ttgttttact cctactttt tccattcagg ccagaaacaa aaagaagagc ctaaggtaac  
241 atttttccct catactgtt caagtggtag aagatgggat agcttgggt atcaaccaca  
301 cacatgtctg tctggattat aggaagagcc caaaggagg tgaaccagt tgtacctta  
361 cagatgcat gagctaggga ccttcttaat agcctctccc actatcatgc acacacttcc  
421 tactacccaa gctagtggg cagatcttac tcagtaggaa ttc  
1 gaattcctgt ccaagcaagg gttgggctaa aggacctctg aaggccttt aggtactgt  
61 gaaaccagtt acttactggc ctctcccctg ctgtattggg taccctctgt gccaaatcac  
121 gaaactgagg tgatccagga tgttgagaga aagcctcaga cactcaggag ttccctttgt  
181 ttctctccca ctcaggaagt gaagctcagt gttcccatgc cctacacact caaggtgcac  
241 tacaagtaca cggtagtcat gaagactcag cccgggctcc cctacagcca ggtccgggac  
301 atggtgtcta agaaactgga gctccggctg gaacacacta agctgaggtg agtccatgc  
361 aggcagctgt gaggggtaca gtgggaacct tgtgtggcc tggaggaggg aagaggagga  
421 ttgtttttgt gatgatgtt tttgactgga ttcttactca ttatccccac ccagctatcg  
481 gctctgggac agcaatgagc ttgtgcccct ttcagaagac agcatgaag atgctgggg  
541 ccagggtgaaa aactactgcc tgactctgtg gtgtgagAAC acagtgggtg gtgcaatgag  
601 ggcactctaa agttacattt cactgagcc acttccctca caatttgaaa ttatcaagc  
661 accttctgtg tactaggcac tatatgtgtt gttggggata tgggtgttaa taagtacag  
721 ctctgctcc cttttacctg catctcacc ccatttgcag caggagaga gtttccaca  
781 agag  
1 ttcataaaga gcatataagc tctacacaag gcactgatca caaactttat gagtttatat  
61 ccagggttct actttgacat ttctgtgtt cttttagtga tgttcagtgt tcaactggga  
121 ggaattggg aaaattaaca ggcctttat ttttccagg tgaccaaggc ttccagatg  
181 aaccagaaga aagtgaataa gctgatgcta ataaccagac aacagaacct cagcttaaga  
241 aaggcagcca agtgaggga ccttctagtt atgaggctac ccaaccagag cacttgaggt  
301 ttcagggaag gatatataat ctggtgttat caaagggtaa gtgtactcc aagactatag  
361 aaacaaattt acatgttagc agaaacaagg tcaagggcag agagaagaaa tatcaataat  
421 ctacaaacaa aactttagcc agtgttttca  
1 gtcaattctt gacctcttc tctatctgt aacttttga aaacataat ttatctctc  
61 ttcattttgc tcattatcat gtttaagaca gatcaataag atggttaaac cctgtgttca  
121 ctctcaaac actttgcaat actgtctttt cctgttgat cacaattagg ggtggggaag  
181 ggtgaccgat aacaaattct gtgtggaata gccagacagg gtaatcttc tacagtgggt  
241 ttagaaatcc atgtgtactt ttcttttat cagtgaatga agaattggct gaaggggagt  
301 gcaaggga ggtgggcat ttcccaag tttttgtga agactgcga actacagatt  
361 tggaaagcac tgggagaga gtctaggatg tttcacaac tacaaagctg aagaaaatga  
421 agccctatta cttgtttgta agatttagca ccttctgct gtatactgta ctgagacatt  
481 acagtgttga agtgtaact atttattccc tgttaaaatt taacctacta gacaatgatg  
541 tgagtaccca ggatgatttc ctggggcaca gtgggtgagg agatggggac aggtgaatgg  
601 aggagttagg ggagaggaaa agtgatgga agtgctgga aagggcacga gagagtctc  
661 caggtactga tctgtttct tgcctgagat gctagctagc cagctgtgtt cacactgtaa

721 acattcatca agctgtacat ttggtgcaact tttctgtgtc ataccacaat aaaaaaaaaa  
781 ctatcatctt acaaaaacaa gacaccaag tccaggccca aggagtaagt acaaatattc  
841 ctgtttctga accattactg taattggctc ttaaggcttg aagtaacctt ataggttact  
901 cataaggcat atacaaataa acttgtttgt tttctttttt cattatgtct tgttgcttaa  
961 acagaaccta gactgagtta ggttctcatg gactacaaca ctcaattcca cagagaatta  
1021 atagaattac atacctttgt acattctcag agaggaacat gtgtaagaa ctcaatctg  
1081 aatatatc aatcgccaac atttaagtga tgaaaagcag cgggtttcat gaagctagtt  
1141 cgtaa

1 gtcacatcgc cctgctgggc ttgagaagc gcttcgtacc cagccagcac tatgtgtaca  
61 tgttcctggt gaaat

(2) INFORMATION FOR SEQ ID NO:151:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1064 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:151:

1 ccagctgata ttccagccca cagcaatgga gccacatgac tcttcccaca tggactctga  
61 gttccgatac actctcttcc cgattgttta cagcatcatc tttgtgctcg gggctcattgc  
121 taatggctac gtgctgtggg tctttgcccg cctgtaccct tgcaagaaat tcaatgagat  
181 aaagatcttc atggtgaacc tcaccatggc ggacatgctc tctttgatca ccttgccact  
241 ttggattgtc tactacaaa accaggggcaa ctggatactc cccaaattcc tgtgcaacgt  
301 ggctggctgc cttttcttca tcaacaccta ctgctctgtg gccttctctg gcgtcatcac  
361 ttataaccgc ttccaggcag taactcggcc catcaagact gtcaggcca acaccgcaa  
421 cgtgggcatc tctttgtcct tggctcatctg ggtggccatt gtgggagctg catcctactt  
481 cctcatcctg gactctacca acacagtggc cgacagtgtc ggctcaggca acgtcactcg  
541 ctgctttgag cattacgaga agggcagcgt gccagtcctc atcatccaca tcttcatcgt  
601 gttcagcttc ttcctggtct tctcatcatc cctcttctgc aacctgggtca tcatcctgac  
661 cttgctcatg cagccggtgc agcagcagcg caacgctgaa gtcaagcgcc gggcgctgtg  
721 gatggtgtgc acggtcttgg cgggtgttcat catctgcttc gtgccccacc acgtgggtgca  
781 gctgccttgg acccttctgt agctgggctt ccaggacagc aaattccacc agggcattaa  
841 tgatgcacat caggtcacc tctgcctcct tagcaccaac tgtgtcttag accctgttat  
901 ctactgttct ctcaccaaga agttccgcaa gcacctcacc gaaaagttct acagcatgcy  
961 cagtagccgg aaatgtctcc gggccaccac ggatacggtc actgaagtgg ttgtgccatt  
1021 caaccagatc cctggcaatt cctcaaaaa ttagtccttg ctcc

(2) INFORMATION FOR SEQ ID NO:152:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1780 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:152:

1 ttcacgagg ctggggccag gaccagaca gagacacag gtcaactgag ctgaagccgc  
61 tgcccctgct acaggcacca ccaggaccag ctgatcattc cagcccacag caatggagcc  
121 acatgactcc tcccacatgg actctgagtt ccgatacact ctcttcccga ttgtttacag  
181 catcatcttt gtgctcgggg tcattgtctaa tggctacgtg ctgtgggtct ttgcccgcct  
241 gtacccttgc aagaaattca atgagataaa gatcttcatg gtgaacctca ccattggcga  
301 catgctcttc ttgatcacc tcgcaactttg gattgtctac taccaaaacc agggcaactg  
361 gatactcccc aaattcctgt gcaacgtggc tggctgcctt ttcttcatca acacctactg  
421 ctctgtggcc ttcctgggcg tcatcactta taaccgcttc caggcagtaa ctcgcccat  
481 caagactgct caggccaaca cccgcaagcg tggcatctct ttgtccttgg tcatctgggt  
541 ggccattgtg ggagctgcat cctacttctc catcctggac tccaccaaca cagtgcgga  
601 cagtgtgctg tcaggcaacg tcaactcgtg ctttgagcat tacgagaagg gcagcgtgcc  
661 agtctctatc atccacatct tcatcgtgtt cagcttcttc ctggtcttcc tcatcatcct  
721 cttctgcaac ctggtcatca tccgtacctt gctcatgcag ccggtgcagc agcagcgcaa  
781 cgctgaagtc aagcgccggg cgctgtggat ggtgtgcagc gtcttggcgg tgttcatcat  
841 ctgcttctgt cccaccacag tgggtcagct gccctggacc ctgtgtgagc tgggcttcca  
901 ggacagcaaa ttccaccagg ccattaatga tgcacatcag gtcacctctc gcctccttag  
961 caccaactgt gtcttagacc ctgttatcta ctgtttcttc accaagaagt tccgcaagca  
1021 cctcaccgaa aagttctaca gcattgcgag tagccggaaa tgctcccggg ccaccacgga  
1081 tacggtcact gaagtgtgtg tgccattcaa ccagatccct ggcaattccc tcaaaaaatta  
1141 gtccctgctt ccaggcctga agtcttctcc tccatgaaac atcatgactg agctggggga  
1201 agaaggata tctactgtgg gtctgggcac cacctctgtg gcactgggtg gccattagat  
1261 ttggaggcta cctcacctgg gcagggatga tgcagagcca ggctgttggg aaatccagaa  
1321 ctcaaatgag ccccttcatc cgcctgtggg cgcatactac agtaactgtg actgatgact  
1381 ttatcctgag tcccttaate ttatggggcc ggaagggaat tcaggggcag gtgcagacct  
1441 tgggggaaga ctttaaacca cctagtcttc ccactggggc atcgttctaa agcttggggg  
1501 gagtggcccc agtggctcac acctgtaate ccagcacttt gggaggccga ggtgggcaga  
1561 tcatgggtca agagatcgag acatcctggc caacattgta aaaccccatc tctactaaaa  
1621 catacaaaaa ttagccgggc atggtgcaca cgcctgtagt cccagctact caggaggctg  
1681 aggcaggaga atcgttgtaa cctgggaggg agaggttgca gtgaacctag attgcaccat



1741 tgcactctag cctggcaaca gaggcagatt cctcctgcc

(2) INFORMATION FOR SEQ ID NO:153:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1467 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:153:

1 cgggagcgcg aggttgccgt gagctgagat cacgccactg cactccagcc tgggcagcaa  
61 gagtgaaact ccacttgaaa aaaaaaaaaa gattcaacat gaacttctga ggggacatca  
121 tcattctaac catggcaagg agtcttgaa ctgatgaaat ggaacagtcc cttctgtgcc  
181 ctttattaac cagaattttt gtgtggtctt ccaggcacca ccaggaccag ctgatcattc  
241 cagccacag caatggagcc acatgactcc tcccacatgg actctgagtt ccgatacact  
301 ctcttcccga ttgtttacag catcatcttt gtgctcgggg tcattgctaa tggctacgtg  
361 ctgtgggtct ttgccgcct gtacccttgc aagaaattca atgagataaa gatcttcattg  
421 gtgaacctca ccatggcgga catgctcttc ttgatcacc tgccactttg gattgtctac  
481 taccaaaacc agggcaactg gatactcccc aaattcctgt gcaacgtggc tggctgcctt  
541 ttcttcatca acacactactg ctctgtggcc ttcttgggcg tcatcactta taaccgcttc  
601 caggcagtaa ctcgcccat caagactgt caggccaaca cccgcaagcg tggcatctct  
661 ttgtccttgg tcacttgggt ggccattgtg ggagctgcat cctacttctt catcctggac  
721 tccaccaaca cagtgcgcca cagtgtggc tcaggcaacg tcaactcgtg ctttgagcat  
781 tacgagaagg gcagcgtgcc agtcctcatc atccacatct tcatcgtgtt cagcttcttc  
841 ctgggtcttc tcatcatcct cttctgcaac ctggtcatca tccgtacctt gctcatgcag  
901 ccggtgcagc agcagcgcaa cgctgaagtc acaggccggg cgctgtggat ggtgtgcagc  
961 gtcttggcgg ttgtcatcat ctgcttcgtg cccaccacg tgggtgcagct gccctggacc  
1021 cttgtctgagc tgggttcca ggacagcaaa ttccaccagg ccattaatga tgcacatcag  
1081 gtcaccctct gcctccttag caccaactgt gtcttagacc ctgttatcta ctgttcttc  
1141 accaagaagt tccgcaagca cctcaccgaa aagtctaca gcatgcgac tagccggaaa  
1201 tgctcccggg ccaccacgga tacggtcact gaagtgttg tgccattcaa ccatgcctc  
1261 ggcaattccc tcaaaaatta gtccttgcct ccaggcctga agtcttctcc tccatgaaca  
1321 tcatggactg agctggggga agaagggata tctactgtgg tctgggcacc acctctgtgg  
1381 gcactggtgg gccattagat ttggaggcta cctcacctgg gcagggatga tggcagacga  
1441 ggctgttga aaatccagaa ctcaaat

(2) INFORMATION FOR SEQ ID NO:154:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4311 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:154:

1 ccagctgata ttccagcca cagcaatgga gccacatgac tctcccaca tggactctga  
61 gttccgatac actctcttcc cgattgttta cagcatcatc tttgtgctcg gggtcattgc  
121 taatggctac gtgctgtggg tctttgcccg cctgtaccct tgcaagaaat tcaatgagat  
181 aaagatcttc atggtgaacc tcaccatggc ggacatgctc ttcttgatca cctgtccact  
241 ttggtattgtc tactacaaa accagggcaa ctggatactc cccaaattcc ttgtgcaacgt  
301 ggctggctgc cttttcttca tcaacaccta ctgctctgtg gccttcttgg gcgtcatcac  
361 ttataaccgc ttccaggcag taactcggcc catcaagact gctcaggcca acaccgcaa  
421 gcgtggcatc tctttgtcct tgggtcatctg ggtggccatt gtgggagctg catcctactt  
481 cctcatcctg gactctacca acacagtgcc cgacagtgtt ggctcaggca acgtcactcg  
541 ctgcttttag cattacgaga agggcagcgt gccagtctc atcatccaca tcttcatcgt  
601 gttcagcttc ttcttggctt tcttcatcat cctcttctgc aacctgttca tcatccgtac  
661 cttgtcatg cagccggtgc agcagcagcg caacgctgaa gtcaagcgcc gggcgctgtg  
721 gatgggtgtgc acggtcttgg cggtgttcat catctgcttc gtgcccacc acgtgggtgca  
781 gctgccctgg acccttgtgt agctgggctt ccaggacagc aaattccacc aggccattaa  
841 tgatgcacat caggtcacc tctgctcct tagcaccaac tgtgtcttag accctgttat  
901 ctactgtttc ctcaccaaga agttccgcaa gcacctcacc gaaaagttct acagcatgcg  
961 cagtagccgg aaatgtctcc gggccaccac ggatacggtc actgaagtgg ttgtgccatt  
1021 caaccagatc cctggcaatt cctcaaaaa ttagtccttg cttc  
1 ttcacgaggg ctggggccag gaccagaca gagacacag gtcactgcag ctgaagccgc  
61 tgcccctgct acaggcacca ccaggaccag ctgatcattc cagccacag caatggagcc  
121 acatgactcc tcccacatgg actctgagtt ccgatacact ctcttcccga ttgtttacag  
181 catcatcttt gtgctcgggg tcattgctaa tggctacgtg ctgtgggtct ttgccgcct  
241 gtacccttgc aagaaattca atgagataaa gatcttcattg gtgaacctca ccatggcgga  
301 catgctcttc ttgatcacc tgccactttg gattgtctac taccaaaacc agggcaactg  
361 gatactcccc aaattcctgt gcaacgtggc tggctgcctt ttcttcatca acactactg  
421 ctctgtggcc ttcttggggt tcatcactta taaccgcttc caggcagtaa ctcggcccat  
481 caagactgct caggccaaca cccgcaagcg tggcatctct ttgtccttgg tcatctgggt  
541 ggccattgtg ggagctgcat cctacttctt catcctggac tccaccaaca cagtgcgga  
601 cagtgtgtgc tcaggcaacg tcaactcgtg ctttgagcat tacgagaagg gcagcgtgcc  
661 agtctctatc atccacatct tcatcgtgtt cagcttcttc ctggtcttcc tcatcatcct  
721 cttctgcaac ctggtcatca tccgtacctt gctcatgcag ccggtgcagc agcagcgcaa

781 cgctgaagtc aagcgccggg cgctgtggat ggtgtgcacg gtcttggcgg tgttcatcat  
841 ctgcttcgtg cccaccacg tgggtgcagct gccctggacc ctgctgagc tgggcttcca  
901 ggacagcaaa ttccaccagg ccattaatga tgcacatcag gtcaccctct gcctccttag  
961 caccactgt gtcttagacc ctgttatcta ctgtttcctc accaagaagt tccgcaagca  
1021 cctcaccgaa aagttctaca gcatgcgcag tagccggaaa tgctcccggg ccaccacgga  
1081 tacggtcact gaagtgggtg tgccattcaa ccagatccct ggcaattccc tcaaaaatta  
1141 gtccctgctt ccaggcctga agtcttctcc tccatgaaac atcatgactg agctggggga  
1201 agaaggata tctactgtgg gtctgggacg caccctgtg gcactgtgg gccattagat  
1261 ttggaggcta cctcacctgg gcaggatga tgcagagcca ggctgttgg aaatccagaa  
1321 ctcaaatgag ccccttcac cgctgtggg cgcatactac agtaactgtg actgatgact  
1381 ttatcctgag tcccttaate ttatggggcc ggaaggaaatg tcagggccag gtgcagacct  
1441 tgggggaaga ctttaaacca cctagttctc ccactggggc atcgggtctaa agctttgggg  
1501 gagtggcccc agtggctcac acctgtaate ccagcacttt gggaggccga ggtgggcaga  
1561 tcatgggtca agagatcgag acatcctggc caacattgta aaacccatc tctactaaaa  
1621 catacaaaaa ttagccgggc atggtgcaca cgctgtagt cccagctact caggaggctg  
1681 aggcaggaga atcgctgaa cctgggaggc agaggttgca gtgaacctag attgcacat  
1741 tgcactctag cctggcaaca gaggcagatt cctcctgccc  
1 cgggaggcgg aggttgcggg gagctgagat cagccactg cactccagcc tgggcagcaa  
61 gagtgaact ccactgaaa aaaaaaataa gattcaacat gaacttctga ggggacatca  
121 tcattctaac catggcaagg agtcttggaa ctgatgaaat ggaacagtc cttctgtgcc  
181 ctttattaac cagaatttt gtgtggtctt ccaggcacca ccaggaccag ctgatcattc  
241 cagcccacag caatggagcc acatgactcc tcccacatgg actctgagt ccgatacact  
301 ctcttccgga ttgtttacag catcatcttt gtgtcgggg tcattgtctaa tggctacgtg  
361 ctgtgggtct ttgccgcct gtacccttgc aagaaattca atgagataaa gatcttcatg  
421 gtgaacctca ccattggcga catgtcttcc ttgatcacc tgccactttg gattgtctac  
481 taccaaaacc agggcaactg gatactcccc aaattcctgt gcaacgtggc tggctgcctt  
541 ttcttcatca acactactg ctctgtggcc ttcttgggcg tcatcacta taaccgcttc  
601 caggcagtaa ctggcccat caagactgct caggccaaca ccgcaagcg tggcatctct  
661 ttgtccttgg tcatctgggt ggccattgtg ggagctgcat cctacttct catcctggac  
721 tccaccaaca cagtggccga cagtgtggc tcaggcaacg tcaactcgtg ctttgagcat  
781 tacgagaagg gcagcgtgcc agtctcctc atccacatct tcatcgtgt cagcttcttc  
841 ctggtcttcc tcatcatcct ctctgcaac ctggtcatca tccgtacct gctcatgcag  
901 ccggtgcagc agcagcgcaa gcctgaagtc acaggccggg cgctgtggat ggtgtgcagc  
961 gtcttggcgg tgttcatcat ctgtctcgtg cccaccacg tgggtgcagc gccctggacc  
1021 cttgtgagc tgggcttcca ggacagcaaa ttccaccagg ccattaatga tgcacatcag  
1081 gtcaccctct gcctccttag caccaactgt gtcttagacc ctgttatcta ctgtttcctc  
1141 accaagaagt tccgcaagca cctcaccgaa aagttctaca gcatgcgcag tagccggaaa  
1201 tgctcccggt ccaccacgga tacggtcact gaagtgggtg tgccattcaa ccagatccct  
1261 ggcaatttcc tcaaaaatta gtccctgctt ccaggcctga agtcttctcc tccatgaaca  
1321 tcatggactg agctggggga agaagggata tctactgtgg tctgggcacc acctctgtgg  
1381 gcaactgtgg gccattagat ttggaggcta cctcacctgg gcagggatga tggcagacga  
1441 ggctgttga aaatccagaa ctcaaat.

## (2) INFORMATION FOR SEQ ID NO:155:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 827 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:155:

1 ctctctctgc acacttccg cacactccc tcgtctccc acaccactgg caccaggccc  
61 cgcacacctg ctggctgca ggagaatggc tactcatcac acgtgtgga tgggactggt  
121 cctgtggtgg ctgctgggag gctacagggc agcaccgag gccaggctc ccgtgcagcc  
181 caacttccag ccggacaagt tcttggggcg ctggttcagc gcgggcccgc cctccaactc  
241 gagctggctc caggagaaga aggcagcgt gtccatgtgc aagtcggtg tggccctgc  
301 ggcggtggt ggcttcaacc tgacctccac ctctctcagg aaaaaccagt gtgagaccg  
361 aacctgctg ctgcagcccg gggactcct cggtcctac agctaccgga gtccccactg  
421 gggcagcacc tactctgtgt cagtgtgga gactgactac gaccactacg cctgtgtga  
481 cagccagggc agcaagggcc ccggcgagga cttccgcatg gccaccctct acagccgaac  
541 ccagacccc agggctgagt taaaggagaa atttaccgcc ttctgcaagg cccagggtt  
601 cacagaggat tccattgtct tctgcccc aaccgataag tgcatgacg aacaatagga  
661 ctccccagag ctgaagctgg gaccgcagcc agccaggtga cccctgcgt ctggtgttt  
721 ccgtctgtt ccttccccga gccctgcgcc cggtcccc ccaaagcacc cctgccccct  
781 cgggcttct cctggctctg cggaataaac tccgaagca agtctgt

## (2) INFORMATION FOR SEQ ID NO:156:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2245 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:156:

1 ggagcaagag gtggttggg ggggaccatg gctgacgtt tcccgggcaa cgactccacg  
61 gcgtctcagg acgtggccaa ccgcttcgcc cgcaaaggg cgctgaggca gaagaacgtg

121 cactgaggtga aggaccacaa attcatcgcg cgcttcttca agcagcccac cttctgcage  
181 cactgcaccg acttcatctg ggggtttggg aaacaaggct tccagtcca agtttgcgtg  
241 tttgtggtcc acaagaggtg ccatgaattt gttactttt cttgtccggg tgcggataag  
301 ggaccgcgaca ctgatgacct caggagcaag cacaagtcca aaatccacac ttacggaagc  
361 cccaccttct gcgatcactg tgggtcactg ctctatggac ttatccatca agggatgaa  
421 ttgtacacct gcgatatgaa cggtcacaa caatgcgtca tcaatgtccc cagcctctgc  
481 ggaatggatc acactgagaa gagggggcgg atttacctaa aggctgaggt tgctgatgaa  
541 aagctccatg tcacagtacg agatgcaaaa aatctaattc ctatggatcc aaacgggctt  
601 tcagatccct atgtgaagct gaaacttatt cctgatccca agaatgaaag caagcaaaaa  
661 accaaaacca tccgctccac actaaatccg cagtggatg agtcctttac attcaaatg  
721 aaaccttcag acaagaccg acgactgtct gtagaaatct gggactggga tcgaacaaca  
781 aggaatgact tcatgggac cctttccttt ggagtctcgg agctgatgaa gatgccggcc  
841 agtggatggt acaagttgct taaccaagaa gaaggtgagt actacaacgt acccattccg  
901 gaaggggacg aggaaggaaa catggaactc aggcagaaat tcgagaaagc caaacttggc  
961 cctgctggca acaaagtcac cagtccctct gaagacagga aacaacctt caacaacctt  
1021 gaccgagtga aactcacgga cttcaatttc ctcatggtgt tgggaaaggg gagttttgga  
1081 aaggtgatgc ttgccgacag gaagggcaca gaagaactgt atgcaatcaa aatcctgaag  
1141 aaggatgtgg tgattcagga tgatgacgtg gagtgcacca tggtagaaaa gcgagtcttg  
1201 gccctgcttg acaaaccccc gttcttgacg cagctgcact cctgcttcca gacagtggat  
1261 cggctgtact tcgtcatgga atatgtcaac ggtggggacc tcatgtacca cattcagcaa  
1321 gtaggaaaaa ttaaggaaac acaagcagta ttctatgcgg cagagatttc catcggattg  
1381 ttctttcttc ataaaagagg aatcatttat agggatctga agttagataa cgtcatgttg  
1441 gattcagaag gacatatcaa aattgctgac tttgggatgt gcaaggaaca catgatggat  
1501 ggagtcacga ccaggacctt ctgtgggact ccagattata tcgccccaga gataatcgct  
1561 tatcagccgt atggaaaatc tgtggactgg tgggcctatg gcgtcctgtt gtagaaatg  
1621 cttgccgggc agcctccatt tgatgggtga gatgaagacg agctatttca gctcattc  
1681 gagcacaacg ttctctatcc aaaatccttg tccaaggagg ctgtttctat ctgcaaggga  
1741 ctgatgacca aacaccagc caagcggctg ggctgtggg ctgaggggga gagggacgtg  
1801 agagagcatg cttcttccg gaggatcgac tgggaaaaac tggagaacag ggagatccag  
1861 ccaccattca agcccaaagt gtgtggcaaa ggagcagaga actttgacaa gttcttcaca  
1921 cgaggacagc ccgtcttaac accacctgat cagctggtta ttgctaact agaccagtct  
1981 gattttgaag ggttctcgta tgtcaacccc cagtttgtgc accccatctt acagagtga  
2041 gtatgaaact caccagcgag aacaaacacc tcccagccc ccagccctcc ccgagtgga  
2101 agtgaatcct taaccctaaa attttaaggc cacggcttgt gtctgattcc atatggaggc  
2161 ctgaaaattg tagggttatt agtccaaatg tgatcaactg ttcagggtct ctctcttaca  
2221 accaagaaca ttatcttagt ggaag

## (2) INFORMATION FOR SEQ ID NO:157:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 636 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:157:

1 cttatcacag ttcaagtgtat ttccagaagt tccagggtt ctgagagacc atcaaggga  
61 ctttaacaac ttgacaaatg tcttgaagt aagatgcctc atctttaggg aaaaaatggg  
121 tttggatttc tgcttaggca aagtctcctg cagttcatcc ttctctgtcc tcttctgtct  
181 tcaggcttgg ggaccgtccc tgctgtcccc actgtggtgg caatcaggac ctaagggtgaa  
241 gcaaaactga agttctatct gacaagttaa ggcagtaaga gaaggaggga aatcggagca  
301 aagtcctctc actttattgt tgagaaactg gcactctgaa agaagaagga atttgcccaa  
361 agtcagtcag ctgggataaa aacctgggtg tctgtctcag aaagtgcagg gtgctttctg  
421 ctctgtagca aggcagcaga catctctgag ccaggcccac caacaggccc ttatctggtg  
481 ttggatcat gatccatttt tgcttgagca tgctctcagg aagataaaaa ccatggagaa  
541 acctaggcc attgacaaat gatctgagac aactttagaa aacaatgtag gatgaatgga  
601 aagagaaaga aaggaaagaa aaaaaaaaaa aaaagg

## (2) INFORMATION FOR SEQ ID NO:158:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2574 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:158:

1 cagagccggc gcagggaag cgcccggggc cccgggtgca gcagcggcg ccgctcccg  
61 ggctcccccg gcccgagcc cggggtcccg ggccccggg ccggcacctc tcgggctccg  
121 gctcccccg cgcaagatgg ctgaccggc tgccggggcg ccgcccagcg agggcgagga  
181 gagcaccgtg cgcttcgccc gcaaaggcgc cctccggcag aagaacgtgc atgaggtcaa  
241 gaaccacaaa ttcaccggcc gttcttcaa gcagcccacc ttctgcagcc actgcaccga  
301 cttcatctgg ggcttcggga agcagggatt ccagtgccaa gtttgcgtct ttgtggtgca  
361 caagcgggtg catgaatttg tcacattctc ctgcccctgg gctgacaagg gtcacgctc  
421 cgatgacccc cgagcaaac acaagtttaa gatccacacg tactccagcc ccacgttttg  
481 tgaccactgt ggtcactgc tgtatggact catccaccag gggatgaaat gtgacacctg  
541 catgatgaat gtgcacaagc gctgcgtgat gaatgttccc agcctgtgtg gcacggacca  
601 cacggagcgc cgcgccgca tctacatcca ggccacatc gacagggacg tctctattgt

661 cctcgtaaga gatgctaaaa accttgatcc tatggacccc aatggcctgt cagatcccta  
721 cgtaaaactg aaactgattc ccgatcccaa aagtgaagagc aaacagaaga ccaaaaccat  
781 caaatgctcc ctcaaccctg agtggaaatga gacatttaga tttcagctga aagaatcgga  
841 caaagacaga agactgtcag tagagatttg ggattgggat ttgaccagca ggaatgactt  
901 catgggatct ttgtcctttg ggatttctga acttcagaag gccagtgttg atggctgggt  
961 taagttactg agccaggagg aaggcagagta cttcaatgtg cctgtgccac cagaaggaag  
1021 tgaggccaat gaagaactgc ggcagaaatt tgagagggcc aagatcagtc agggaaacaa  
1081 ggtcccggaa gaaaagacga ccaacactgt ctccaaattt gacaacaatg gcaacagaga  
1141 ccggatgaaa ctgaccgatt ttaacttcct aatggtgctg gggaaaggca gctttggcaa  
1201 ggtcatgctt tcagaacgaa aaggcacaga tgagctctat gctgtgaaga tcctgaagaa  
1261 ggacgtttgt atccaagatg atgacgtgga gtgcaactat gtggagaagc ggggtgtggc  
1321 cctgcctggg aagccgccct tectgaccca gctccactcc tgcttcaga ccatggaccg  
1381 cctgtacttt gtgatggagt acgtgaatgg gggcgacctc atgtatcaca tccagcaagt  
1441 cggccggttc aaggagcccc atgctgtatt ttacgctgca gaaattgcca tcggtctgtt  
1501 cttcttacag agtaagggca tcatttaccg tgacctaaaa cttgacaacg tgatgctcga  
1561 ttctgaggga cacatcaaga ttgccgattt tggcatgtgt aaggaaaaca tctgggatgg  
1621 ggtgacaacc aagacattct gtggcactcc agactacatc gcccccgaga taattgctta  
1681 tcagccctat gggaaagtcg tggattgggt ggcatttggg gtcctgctgt atgaaatgtt  
1741 ggtgtggcag gcaccctttg aaggggagga tgaagatgaa ctcttccaat ccatcatgga  
1801 acacaacgta gcctatccca agtctatgtc caaggaagct gtggccatct gcaaagggt  
1861 gatgacaaaa caccaggca aacgtctggg ttgtggacct gaaggcgaac gtgatatcaa  
1921 agagcatgca tttttccggt atattgattg ggagaaactt gaacgcaagc agatccagcc  
1981 cctttataag ccaaaagcta gagacaagag agacacctcc aacttcgaca aagagttcac  
2041 cagacagcct gtggaactga cccccactga taaactcttc atcatgaact tggacaaaaa  
2101 tgaatttgct ggcttctctt atactaacc agagtttgct attaatgtgt aggtgaatgc  
2161 aaactccatc gttgagcctg ggggtgaaga cttcaagcca agcgtatgta tcaattctag  
2221 tcttccagga ttcacggtgc acatgctggc attcaacatg tggaaagctt gtcttagagg  
2281 ctttctttgt atgtgtagct ttctagtgtt ttttctacat ttgaaaatgt ttgatttaga  
2341 ataagcgcac tatccaatta tagaggtaca attttccaaa cttccagaaa ctcatacaat  
2401 gaacagacaa tgtcaaaact actgtgtctg ataccaaaat gcttcagtat ttgtaatttt  
2461 tcaagtcaga agctgatgtt cctggtaaaa gtttttacag ttattctata atatcttctt  
2521 tgaatgctaa gcatgagcga tatttttaaa aattgtgagt aagcttcgga attc

## (2) INFORMATION FOR SEQ ID NO:159:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3321 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:159:

1 cagagccggc gcagggaag cgcccggggc ccgggtgca gcagcgccc cgcctcccg  
61 ggctccccg gccgcagcc cggggtcccg ggccccgggg cggcacctc tcgggtccc  
121 gctccccgc cgcaagatgg ctgaccggc tgcggggccg ccggcgagc agggcgagga  
181 gagcacctg cgcttcgcc gcaaggcgc cctccggcag aagaacgtgc atgaggtcaa  
241 gaaccacaaa ttcaccgccc gcttctcaa gcagccacc ttctgcagcc actgcaccga  
301 cttcatctgg ggcttcggga agcagggatt ccagtgccaa gtttgcgtgt ttgtggtgca  
361 caagcgggtg catgaatttg tcacattctc ctgccctggc gctgacaagg gtccagcctc  
421 cgatgacccc cgcagcaaac acaagtttaa gatccacacg tactccagcc ccacgttttg  
481 tgaccactgt gggctactgc tgtatggact catccaccag gggatgaaat gtgacacctg  
541 catgatgaat gtgcacaagc gctgcgtgat gaatgttccc agcctgtgtg gcacggacca  
601 cacggagcgc cgcggccgca tctacatcca ggcccacatc gacagggacg tcctcatattg  
661 cctcgtaaga gatgctaaaa accttgatcc tatggacccc aatggcctgt cagatcccta  
721 cgtaaaactg aaactgattc ccgatcccaa aagtgaagagc aaacagaaga ccaaaaccat  
781 caaatgctcc ctcaaccctg agtggaaatga gacatttaga tttcagctga aagaatcgga  
841 caaagacaga agactgtcag tagagatttg ggattgggat ttgaccagca ggaatgactt  
901 catgggatct ttgtcctttg ggatttctga acttcagaag gccagtgttg atggctgggt  
961 taagttactg agccaggagg aaggcagagta cttcaatgtg cctgtgccac cagaaggaag  
1021 tgaggccaat gaagaactgc ggcagaaatt tgagagggcc aagatcagtc agggaaacaa  
1081 ggtcccggaa gaaaagacga ccaacactgt ctccaaattt gacaacaatg gcaacagaga  
1141 ccggatgaaa ctgaccgatt ttaacttcct aatggtgctg gggaaaggca gctttggcaa  
1201 ggtcatgctt tcagaacgaa aaggcacaga tgagctctat gctgtgaaga tcctgaagaa  
1261 ggacgtttgt atccaagatg atgacgtgga gtgcaactat gtggagaagc ggggtgtggc  
1321 cctgcctggg aagccgccct tectgaccca gctccactcc tgcttcaga ccatggaccg  
1381 cctgtacttt gtgatggagt acgtgaatgg gggcgacctc atgtatcaca tccagcaagt  
1441 cggccggttc aaggagcccc atgctgtatt ttacgctgca gaaattgcca tcggtctgtt  
1501 cttcttacag agtaagggca tcatttaccg tgacctaaaa cttgacaacg tgatgctcga  
1561 ttctgaggga cacatcaaga ttgccgattt tggcatgtgt aaggaaaaca tctgggatgg  
1621 ggtgacaacc aagacattct gtggcactcc agactacatc gcccccgaga taattgctta  
1681 tcagccctat gggaaagtcg tggattgggt ggcatttggg gtcctgctgt atgaaatgtt  
1741 ggtgtggcag gcaccctttg aaggggagga tgaagatgaa ctcttccaat ccatcatgga  
1801 acacaacgta gcctatccca agtctatgtc caaggaagct gtggccatct gcaaagggt  
1861 gatgacaaaa caccaggca aacgtctggg ttgtggacct gaaggcgaac gtgatatcaa

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1921 agagcatgca tttttccggt atattgattg ggagaaaactt gaacgcaaag agatccagcc
1981 cccttataag ccaaaagctt gtgggcgaaa tgctgaaaac ttcgaccgat ttttcacccg
2041 ccatccacca gtctaatac ctcccgacca ggaagtcatac aggaatattg accaatcaga
2101 attcgaagga ttttcctttg ttaactctga atttttaaaaa cccgaagtca agagctaagt
2161 agatgtgtag atctccgtcc ttcatttctg tcattcaagc tcaacggcta ttgtgtgac
2221 atttttatgt ttttcattgc caagttgcat ccatgtttga ttttctgatg agactagagt
2281 gacagtgttt cagaacccaa atgtcctcag gtatgtttgga gcattcttat gagatgggat
2341 tatgcagatg gcctatggaa aatgcagctg cataattaac acattatcaa agtctcttta
2401 caatttattt tccgcagcat gtcagctaag tagacccaat ggggagagaa aatgcctgct
2461 ttctttccct cttttctgc actgccatat tcaccccaa ccatccaatc tgtggataat
2521 tggatgttag cgttactctt ccacttccg tccctggagct tggcttgtat ccaagtgtat
2581 ggttgctttg cctaagagga atccctctat ttcacctgtt ctggaggcac cagaccttga
2641 aaagaacatg ctcaaaataa aatgttatct gttatttttg taaactcaaa gtttaagatga
2701 tcaaagtctt aaaattccaa gaatgtgctt ttagacggct tcaatctaaa agcacttcaa
2761 ggggtcaaaag ggcaaccagc ttggtgctac ctcatgtttg tagtttctga tactttatgt
2821 ctttctcac cctcatcccc aaactacttg aaaagggcat ttggcaccac tctctgaaac
2881 aacacagtca ctctagcaag gcccccaaag ggccctggtt ttacattaca tttcaaaact
2941 tatgttcttt ggggttttgt ttctgttgtt gttcaaatgc aaaaaaaaga aaaaaaaag
3001 aaaaaaaag gtgactcaca ttgttacaca tgctttaaaa tatgtgttca aatgttatta
3061 accacaatga cgacctgttt tgatttaacc aagaagacgg ctgaggagcc tagcagactc
3121 aggcctgtgg gaatgggatt tgttacaaat ctaggtttgt tactggcttc agaaagctaa
3181 ttaagtgtct tgaaaaagac accgtttctt gaaacaaaga tgggtgtatt cctcactttg
3241 atgttgtttt gcaagatgtt tgtggaaatg ttcatttcta tctggatctc tgttatgtgc
3301 catttttctt ctatcatcga g

```

## (2) INFORMATION FOR SEQ ID NO:160:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 621 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:160:

```

1 gtccttcatt cttccacaa ctatttatcc agcaccgttt ctgggcacag ggctccagcg
61 atggctccaa caggtacaat gacctctggg gaccaagttc agttcttggg gagttctcca
121 gtgctctcgt atgtaggatg aaccgttggc atgctccact gacgtggctt cttctgttg
181 ttctctcttg ctccaggacc cccgcagcaa acacaagttt aagatccaca cgtactccag
241 cccacgcttt tgtgaccact gtgggtcact gctgtatgga ctcatccacc aggggatgaa
301 atgtgacagt aagtactttc tctctctggg ggcatctgct gatggcagaa gcaatgggaa
361 gggctgcttc cacttgggtt ggggtccagg tctgccatac attccccctt gtcctcgttg
421 gggctgggtg accagttatc tgttgcgtca taatgatcct cccaccccaa aacactgtga
481 ctgaagacaa taaacatttt tttagctcat gactctgcaa ggcagtctt tgaatctggg
541 ctggcctcag ctgatgtcac gcatgttcat aaagcatgaa ctcatggttc atggtggatt
601 agcagatgga ggtgggctgg g

```

## (2) INFORMATION FOR SEQ ID NO:161:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1559 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:161:

```

1 acatcaagga gacgagtctt ggttgatag taatgtcttt aacacccctc tagcatttat
61 taatttcctc tcttaacaaa taaaagatgc ctttcagtca gatgcttagg acagatgacg
121 cacctagaga tattttaata atgtagatac tcttgctgtt caaactcaga ccaaaatgac
181 gataggcttt tttggccccc agagggtgca caaatacgac cagaatttgt gaagacgagt
241 cagaaatgaa tgaaatttgg aaaaatattg atctactgaa atccttcctc cccacactat
301 tagccctatg ttacagttgg ggaacggag tcgtttttgca gaggggatgg acagaaggta
361 gggagtcttc ttccaaacgt gcaggaggca agcaaaagca agaattctct ctgtgtgag
421 ttagagacat ataaaaataa gatcgctcct cccctacctc tgcagaacgt gtgtgtgtat
481 gtgtgtgtaa gtgtgtgcgg ccacaagcct ttccgaatga gtgacagcgg gagcccatcc
541 ctccaggaga cgcgtgcaga atgaccaatg ggatggatgg ggggtgatgg gtaccagtct
601 ccgcagaggg cggggtggga attcgtgcg cccacccctt tccaccgct ccccttcgcc
661 ccgtaggtct ttccactctc gtcctccccc tgggcacatc tctgaacgc agccccgggg
721 gccgaggacg ggggtgggtg gggggcgagg ctcggttccg acgaccccg gctgcggtcc
781 cggcgctgca gagctgcggc tgtgcagct tagccgcgag gcccgcggtg gcccgggcgc
841 cgatatgtaa agcagctggc agcgctgggc ggggcctggg cgcgactgca aatgaggagg
901 gcgcgggctg gcccgggggc tccgcctccc tccccgcag ctggggcgag cggtgcctaa
961 gcgcactggt cgagcggcag cagctggggc aggtgacagc cccggtccg cgcgcggccc
1021 gccagagccg gcgcagggga agcgcggcg gcccggggtg cagcagcggc cgcgcctccc
1081 cgcgcctccc cggcccgag cccgcggctc cgcgcggcg ggcgggacc tctcgggtc
1141 cggctccccg cgcgcaagat ggctgaaccc gctgcggggc cgcgcggcag cgaggcgag

```

1201 gagagcaccg tgcgcttcgc ccgcaaaggg gccctcaggc agaagaacgt gcatgaggtc  
1261 aagaaccaca aattcaccgc ccgcttcttc aagcagccca ccttctgcag ccaactgcacc  
1321 gacttcatct ggtgaccccc caggcactcc ggccccaggc cacgcgcgcg caggaccccc  
1381 tctccgcgcc ctctgcgcc tccgcacct ggaccccgcg tccccggact ccccgctccg  
1441 gaccctgtg cccgggactc ccggtaggac agtccctagc gttgcctgt cccacacctg  
1501 gtcccagacg ggccgcgcg ggccgctcct gccctctcct gctctcaggc gcctctaga

## (2) INFORMATION FOR SEQ ID NO:162:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2510 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:162:

1 gtcgactgca ggtcaacgga cacatcaagg agagagtcct ggttgatag taatgtcttt  
61 aacacccctc tagcatttat taatttcctc tcttaacaaa taaagatga cttcagttga  
121 agatccttag gacagatgac ggcacctgga gatattttta taatgtagat accctcttgc  
181 tgttcaaaact cagacaaaaa gagatggctt tttttccccc agaggggtgca caaatacgac  
241 agaattttgtg aagacgagtc agaaatgaat gaaatttggg aaaatattga tctactgaaa  
301 tccttcctcc ccacactatt agccctatgt tacagttggg gaaacggagt cgttttgcag  
361 aggggtagga cagaaggtag ggagttctct tccaacgtgc aggaggcaag caaagccaag  
421 catcttctct gtggtggagt tagagacata taaaataaga tcgctcctcc cctacctctg  
481 cagaacgtgt gtgtgtatgt gtgtgtaacg tgtgtgcggc cacaagcctt tccgaatgag  
541 tgacagcggg agcccatccc tccaggagac gcgtgcagaa tgaccaatgg gatggatggg  
601 ggtggatggg taccgtctcc gcgagccggg ggtggaattc gctgcgcccc accccttcca  
661 cccgctcccc ttcgccccgt aggtctttcc actctcgtc ctccccgtgg cacatctcct  
721 gaacgcagcc cggggggccg aggcgggggt ggggtggggg gcgaggctcg ggtccgacga  
781 cccggggctg cggctccggc gctgcagagc tgcggctgtg cacgcttagc gcgaggccc  
841 gcggtagccc gggcgccgat atgtaaaaga gctggcagcg ctgggggggg cctggggcgcg  
901 atgcaaatga ggaggcggg ggctccgctt ggtccgctt ccctccccg cagctggggc  
961 cagcgggtcc aagcgcagct ggacgagcgg cagcagctgg gcgagtgaac gccccggctc  
1021 cgcgcgccgc ggccgccaga gccgcgcag gggaaagcgc cgcggccccc ggtgcagcag  
1081 cggccgcccgc ctcccgcgcc tccccggccc gcagcccgcg gtcccggggc cccggggccc  
1141 gcacctctcg ggctccggct ccccgcgcg aagatggctg acccggtctg ggggcgcgcg  
1201 ccgagcgagg gcgagagag caccgtgcgc ttcgcccga aagcgccct caggcgaag  
1261 aacgtgcatg aggtcaagaa ccacaaattc accgcccgt tcttaagca gccaccttc  
1321 tgcagccact gcaccgactt catctggtgg agcgcgcgcg caaggcact tcccgggccc  
1381 ccgaggcagc gccgcgccaa gggacccctt ctccgccctc tgcgccctcc gcacctgga  
1441 ccccgctccc cgggactccc cgctccggac cctgtgcgg ggactcccg atggacagt  
1501 ctccggttgc cctgtcccca cctgtgtccc aggcggggg cgctcctgc cctctctgc  
1561 tctcaggcgc ctctagagcg cccaggggca gcgtcgcggg cgcctttgtt ccacctgact  
1621 aggagcgcg gcgggtctgt cctgccctgg agggcagcgc ctcggtgtct ctccgacctg  
1681 gggttcccta tctctccgcc tgcttccggg cgcgaggagc cctcgcccc cacccttgt  
1741 ttccgggggg ggggggcgc gccctgggtg tcttctcta tctctgcgg catgggacat  
1801 cctttctcac tctctgtgc ctccgcagcg cctgtgttta tctccattg cctccccga  
1861 ggccctggtt cccctttcca ctctcgggtc acatcactgc gggcccttt cttccccagt  
1921 ccctccagta gtggggcatc ctttctcct tcccagtcct cctccagag gacaccaccg  
1981 ccgcggggtc actctcgcct tccctctgaa tgcgtcttta tctctctct tttccgaggg  
2041 tgctcggggc atctatgggt acatctgtcg cctgccttca gccctacc cagcggaaac  
2101 gctccccact atcccgccac ctggtgtctg cagcctctc tcttctgag gagtgaaggc  
2161 agatcggggg tacagccgag ctccaccta cccccacaaa ggcggaagac tcttgggcac  
2221 ccgctgtgtg ctgggagttt gcacctgggg tacagaggca gggagggaag cgggtgactc  
2281 tgtgggtaac tagctggagg ctgggcccc gggctgcctg acatacacct ccttctgctt  
2341 ttgcaggggc ttcgggaagc agggattcca gtgccaaagt aggtctggg gcttgggga  
2401 tgctatttgt gggaagagag ggtgaaaaat actttataga agaagttact gagttaggca  
2461 gagagtgaag gaatcacgtt ggtcggagtg acctcccagg ctagggaattc

## (2) INFORMATION FOR SEQ ID NO:163:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2163 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:163:

1 aaagcgacca tgtatctga gtggaagtcg acgttcgatg cccacatcta tgagggggcg  
61 gtcattccaga ttgtgctaag gggggcagca gaggagccag tgtctgaggt gaccgtgggt  
121 gtgtcgggtg tgcccgagcg ctgcaagaag aacaatggca aggtgagtt ctggctggac  
181 ctgcagcctc aggccaaggt gttgatgtct gttcagtatt tcttgaggga cgtggattgc  
241 aaacagtcta tgcgcagtga ggacgaggcc aagttcccaa cgatgaaccg ccgcgagacc  
301 atcaaacagg ccaaaatcca ctacatcaag aacctagagt ttatcgccac cttctttggg  
361 caaccacact tctgttctgt gtgcaaagac tttgtctggg gcctcaaca gcaaggctac  
421 aaatgcaggc aatgtaacgc tgccatccac aagaaatgca tcgacaagat catcggcaga  
481 tgcactggca ccgcgcccaa cagccgggac actatattcc agaaaagac cttcaacatc

```

541 gacatgccgc accgcttcaa ggttcacaac tacatgagcc ccaccttctg tgaccactgc
601 ggagcctgc tctggggact ggtgaagcag ggattaaagt gtgaagactg cggcatgaat
661 gtgcaccata aatgccggga gaaggtggcc aacctctgag gcatcaacca gaagcttttg
721 gctgaggcct tgaaccaagt caccagaga gcctcccga gatcagactc agcctcctca
781 gagcctgttg ggatatatca gggtttcgag aagaagaccg gagggtgctg ggaggacatg
841 caagacaaca gtgggaccta cggcaagatc tgggagggca gcaagcaagt caacatcaac
901 aacttcatct tccacaaggt cctgggcaaa ggcagcttcg ggaaggtgct gcttggagag
961 ctgaagggca gaggagagta ctttgccatc aaggccctca agaaggatgt ggtcctgac
1021 gacgacgagc tggagtgcac catggttgag aagcgggtgc tgacacttgc cgcagagaat
1081 ccctttctca cccacctcat ctgcaccttc cagaccaagg accacctgtt cttgtgtatg
1141 gaggttctca acggggggga cctgatgtac cacatccagg acaaaggccg ctttgaactc
1201 taccgtgcca cgttttatgc cgctgagata atgtgtggac tgcagtttct acacagcaag
1261 ggcatcattt acagggacct caaactggac aatgtgctgt tggaccggga tggccacatc
1321 aagattgccc actttgggat gtgcaaaag aacatattcg gggagagccg ggccagcacc
1381 ttctgcccga cccctgacta tatcgccctt gagatcctac agggcctgaa gtacacattc
1441 tctgtggact ggtggtcttt cggggtcctt ctgtacgaga tgctcatttg ccagtcccc
1501 ttcctggtg atgatgagga tgaactcttc gactccatcc gtgtggacac gccacattat
1561 ccccgctgga tcaccaagga ttccaaggac atcctggaga agctctttga aagggaacca
1621 accaagaggc tgggagtgc gggaaacatc aaaatccacc ctttcttcaa gaccataaac
1681 tggactctgc tggaaaagcg gaggttgag ccacccttca gggccaaagt gaagtaccc
1741 agagactaca gtaactttga ccaggagttc ctgaacgaga aggcgcgcct ctctacagc
1801 gacaagaacc tcatcgactc catggaccag tctgcattcg ctggcttctc cttgtgaac
1861 cccaaattcg agcacctcct ggaagattga ggttcctgga cagatcagge tagccctgcc
1921 ctccaccac acctgcccgc tccccacgat aagcaccagt gggactgtgg tgacttctgc
1981 tctgcccc gccctgccc ccagagcgtc cttggctgcc gtctggccgg gctctcatgg
2041 tacttctct ctgaactgtg tgtgaactcg ctttctctc gccttcggag gaaattgta
2101 aatcctgtgt ttcattactt gaatgtagtt atctattgaa aatatacttt agagcacaat
2161 gga

```

## (2) INFORMATION FOR SEQ ID NO:164:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2104 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:164:

```

1 tgcgcgcgcg acccttgccg cctgcccctg caacgggagc cccactgcag gccccaccat
61 ggccgcgttc ctgcccctgc ccttcaactc ctatgagctg ggctccctgc agggccaggga
121 cgaggcgaac cagcccttct gtgcccgtgaa gatgaaggag gcgctcagca cagagcgtgg
181 gaaaacactg gtgcagaaga agccgaccat gtatcctgag tggagatcga cgttcgatgc
241 ccacatctat gaggggcccgc tcatccagat tgtgctaagt cgggcagcag aggagccagt
301 gtctgagggtg accgtgggtg tctcggtgct ggccgagcgc tgcaagaaga acaatggcaa
361 ggctgagttc tggctggacc tgcagcctca ggccaagggt ttgatgtctg ttcagtattt
421 cctggaggac gtggattgca aacaatctat gcgcagtgag gacgaggcca agtcccaac
481 gatgaaccgc cgccgagcca tcaaacaggc caaaatccac tacatcaaga accatgagtt
541 tatcgccacc tcttttggc aaccacctt ctgttctgtg tgcaagact ttgtctgggg
601 cctcaacaag caaggctaca aatgcaggca atgtaacgct gccatccaca agaaatgcat
661 cgacaagatc atcggcagat gcaactggac cgccggccaac agccgggaca ctatattcca
721 gaaagaacgc ttcaacatcg acatgcccga ccgcttcaag gttcacaact acatgagccc
781 caccttctgt gaccactgcg gcagcctgct ctggggactg gtgaagcagg gattaaagtg
841 tgaagactgc ggcatgaatg tgaccataaa atgcccggag aaggtggcca acctctgcgg
901 catcaaccag aagcttttgg ctgaggcctt gaaccaagtc acccagagag cctcccggag
961 atcagactca gcctcctcag agcctgttgg gatatatcag ggtttcgaga agaagaccgg
1021 agttgctggg gaggacatgc aagacaacag tgggacctac ggcaagatct gggaggggcag
1081 cagcaagtgc aacatcaaca acttcatctt ccacaaggct ctgggcaaa ggcagcttcg
1141 gaaggtgctg cttggagagc tgaaggcgag aggagagtac tctgccatca aggccctcaa
1201 gaaggtatgt gtcctgatcg acgacgacgt ggagtgcacc atgggttga agcgggtgct
1261 gacacttgcc gcagagaatc ctttctcac ccacctcatc tgcaccttcc agaccaagga
1321 ccacctgttc tttgtgatgg agttcctcaa cgggggggac ctgatgtacc acatccagga
1381 caaaggccgc tttgaactct accgtgccac gttttatgcc gctgagataa tgtgtggact
1441 gcagtttcta cacagcaagg gcatatttta cagggacctc aaactggaca atgtgtctgt
1501 ggaccgggat ggccacatca agattgccga ctttgggatg tgcaaaagaga acatattcgg
1561 ggagagccgg gccagcacct tctgcggcac ccctgactat atcgcccctg agatcctaca
1621 gggcctgaag tacacattct ctgtggactg gtggtcttctc ggggtccttc tgtacgagat
1681 gctcattggc cagtccccct tccatggtga tgatgaggat gaactcttc agtccatccg
1741 tctggacacg ccacattatc cccgctggat caccaaggag tccaaggaca tctggagaa
1801 gctctttgaa agggaaccaa ccaagaggct gggaaatgac ggaaacatca aaatccacc
1861 cttcttcaag accataaact ggactctgct ggaaaagcgg aggttggagc cacccttcag
1921 gcccaaagtg aagtcaccca gagactacag taactttgac caggagttcc tgaacgagaa
1981 ggcgcgcctc tctacagcg acaagaacct catcgactcc atggaccagt ctgcattcgc
2041 tggcttctcc tttgtgaacc ccaaattcga gcacctctg gaagattgag gttcctggac
2101 agat

```



## (2) INFORMATION FOR SEQ ID NO:165:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2146 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:165:

```
1 cccaagatgg aagggagcgg cgccgcgctc cgctcaagg cgcattacgg gggggacatc
  61 ttcataacca gcgtagacgc cgccacgacc ttcgaggagc tctgtgagga agtgagagac
 121 atgtgtcgtc tgcaccagca gcaccgcgtc accctcaagt gggtagacag cgaagggtgac
 181 ccttgacagg tgtcctcca gatggagctg gaagaggctt tccgcctggc ccgtcagtgc
 241 agggatgaag gcctcatcat tcatgttttc ccgagcacc ctagcagacc tggcctgcca
 301 tgtccgggag aagacaaatc tatctaccgc cggggagcca gaagatggag gaagctgtac
 361 cgtgccaaac gccacctctt ccaagccaag cgctttaaca ggagagcgta ctgcggtcag
 421 tgcagcgaga ggatatgggg cctcgcgagg caaggctaca ggtgcatcaa ctgcaaaactg
 481 ctgggtccata agcgctgcca cgccctcgtc ccgctgacct gcagggaagca tatggattct
 541 gtcattgcctt cccaagagcc tccagtagac gacaagaacg aggacgcgga ccttccttcc
 601 gaggagacag atggaattgc ttacatttcc tcatcccgga agcatgacag cattaagac
 661 gactcggagg accttaagcc agttatcgat gggatggatg gaatcaaaat ctctcagggg
 721 cttgggctgc aggactttga cctaatacaga gtcacggggc gcgggagcta cgccaaggtt
 781 ctccctgggtc ggttgaagaa gaatgaccaa atttacgcca tgaaagtggg gaagaaagag
 841 ctggtgcatg atgacgagga tattgactgg gtacagacag agaagcacgt gtttgagcag
 901 gcatccagca accccttctt ggtcggatta cactcctgct tccagacgac aagtcggttg
 961 ttcttggtca ttgagtacgt caacgcgggg gacctgatgt tccacatgca gaggcagagg
1021 aagctccctg aggagcacgc caggttctac gcggccgaga tctgcatcgc cctcaacttc
1081 ctgcacgaga ggggatcat ctacagggac ctgaagctgg acaacgtcct cctggatgag
1141 gacgggcaca tcaagctcac agactacggc atgtgcaagg aaggcctggg ccctgggtgac
1201 acaacgagca ctttctgcgg aaccccgaa tacatcgccc ccgaaatcct gcggggagag
1261 gactacgggt tcagcgtgga ctggtggggc ctgggagtc tcatgtttga gatgatggcc
1321 gggcgctccc cgcttcgacat catcaccgac aacccggaca tgaacacaga ggactacctt
1381 ttccaagtga tccctgagaa gccatccgg atccccggg tccgtgctcg caaagcctcc
1441 catgttttaa aaggattttt aaataaggac cccaaagaga ggctcggctg ccggccacag
1501 actggatttt ctgacatcaa gtccacgag ttcttccgca gcatagactg ggacttgctg
1561 gagaagaagc aggcgtccc tccattccag ccacagatca cagacgacta cggctctggac
1621 aactttgaca cacagttcac cagcagccc gtgcagctga cccagacga tgaggatgcc
1681 ataaagagga tcgaccagtc agagttcgaa ggcttgagt atatcaacct attattgctg
1741 tccaccgagg agtcggtgtg aggcgcgctg cgtctctgtc gtggacacgc gtgattgacc
1801 ctttaactgt atccttaacc accgcatatg catgccaggc tgggcacggc tccgagggcg
1861 ccaggggaca gacgcttgcg ccgagaccgc agagggaagc gtcagcggg gctgctggga
1921 gcagacagct cctcacacc tggcccgcca ggcagcttcg tgctggagga acttgctgct
1981 gtgctgctg cgcggggat ccgcggggac cctgccagg gggctgtcat gcggtttcca
2041 aggtgcacat tttccacgga aacagaactc gatgactga cctgctccgc caggaaagtg
2101 agcgtgtagc gtctgagga ataaaatgtt ccgatgaaaa aaaaaa
```

## (2) INFORMATION FOR SEQ ID NO:166:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1423 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:166:

```
1 gggccggcgg cgccggcgac tctggacgag agccgggccc ttcccgtaga tcgccccagg
  61 tgcggcgggc gtcgcgccg ccccggggtg gcacttccgt gtgcccgggc gccggagccc
 121 gaggcggtg tagccacat ctcccgagcg acccccgggc cccgcccgc gcgaggaggc
 181 ccgggccaca cctactggc cgcttgcccc atcccagtea gcgcccggcc gaaccccgctc
 241 cgccgcgccc ggggagcggc gcccccggc ctgcccgcgc gaccttggc gcttgcctc
 301 gcaacgggag cccactgca gggccacca tggcgcggtt cctgcgcatc gccttcaact
 361 cctatgagct gggctccctg caggccgagg acgaggcgaa ccagcccttc tgtgcccgtga
 421 agatgaagga ggcgctcagc acagagcgtg ggaaaaact ggtgcagaag aagccgacca
 481 tgtatcctga gtggaagtgc acgttcgatg cccacatcta tgaggggcgc gtcattccaga
 541 ttgtgctaata cgggcgagca gaggagccag tgtctgaggt gaccgtgggt gtgtcgggtg
 601 tggccgagcg ctgcaagaag aacaatggca aggctgagtt ctggctggac ctgcagcctc
 661 aggccaaggt gttgatgtct gttcagtatt tcttgaggga cgtggattgc aaacagtcta
 721 tgcgagtgga ggacgaggcc aagttcccaa cgatgaaccg ccgcgaggcc atcaaacagg
 781 ccaaaatcca ctacatcaag aacctgagt ttatcgccac cttctttgg caaccacct
 841 ttgttctgt gtgcaagac tttgtctgg gcctcaaca gcaaggctac aaatgcaggc
 901 aatgtaacgc tgccatccac aagaaatgca tcgacaagat catcgcgaga tgcactggca
 961 ccgcgcccaa cagccgggac actatattcc agaaagaacg cttcaacatc gacatgccgc
1021 accgcttcaa ggttcacaac tacatgagcc ccacctctg tgaccactgc ggcagcctgc
1081 tctggggact ggtgaagcag ggattaaagt gtgaagactg cggcatgaat gtgcaccata
```

1141 aatgccgga gaaggtggcc aacctctgcg gcatcaacca gaagcttttg gctgaggcct  
1201 tgaaccaagt caccagaga gcctcccgga gatcagactc agcctcctca gagcctgttg  
1261 ggatatatca gggtttcgag aagaagaccg gagttgctgg ggaggacatg caagacaaca  
1321 gtgggaccta cggcaagatc tgggagggca gcagcaagtg caacatcaac aacttcatct  
1381 tccacaaggt cctgggcaaa ggcagcttcg ggaaggtgct gct

## (2) INFORMATION FOR SEQ ID NO:167:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2244 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:167:

1 ctccccgcc cgaccatggt agtgttcaat ggccttctta agatcaaaat ctgcgaggcc  
61 gtgagcttga agccacagc ctggctcgtg cgccatgcgg tgggaccccg gccgcagact  
121 ttccttctcg accctacat tgccctcaat ttggacgact cgcgcacg ccaaacggcc  
181 accaagcaga agaccaacag cccggcctgg cacgacgagt tcgtcaccga tgtgtgcaac  
241 ggacgcaaga tcgagctggc tgtctttcac gatgccccca taggctaaga cgaactcgtg  
301 gccaaactgca ccatccagtt tgaggagctg ctgcagaacg ggagccgcca cttcaggagc  
361 tggattgatc tggagccaga aggaagagtg tatgtgatca tcgatctctc agggctcgtc  
421 ggtgaagccc cttaaagacaa tgaagagcgt gtgttcaggg aacgcacg gccgaggaag  
481 cggcaggggg ccgtcaggcg cagggtccat cagggtcaac gccacaagtt catggccacc  
541 tatcttcggc agccaccta ctgctcccat tgcagagact tcatctgggg tgtcatagga  
601 aagcagggat accagtgtca agtctgcacc tgcgtggtcc acaagcgggt ccacgagctc  
661 ataatacaca agtgtgctgg gttaaagaag caggagaccc ccgaccaggt gggctccacg  
721 cggttcagcg tcaacatgcc ccacaagttc ggtatccaca actacaaggt cctacccttc  
781 tgcgatcact gtgggtccct gctctgggga ctcttcgggc agggtttgca gtgtaaagtc  
841 tgcaaaatga atgttcaccg tcgatgtgag accaacgtgg ctcccaactg tggagtggat  
901 gccagaggaa tcgccaagt actggccgac ctgggcgtta cccagacaaa aatcaccaac  
961 agcggccaga gaaggaaaaa gctcattgct ggtgccgagt ccccgagcc tgcttctgga  
1021 agctcaccat ctgaggaaga tcgatccaaag tcagcaccca cctccccttg tgaccaggaa  
1081 ataaaagaac ttgagaacaa cattcgaaa gccttgatc ttgacaaccg aggagaggag  
1141 caccgggcag catcgtctcc tgatggccag ctgatgagcc ccggtgagaa tggcgaagtc  
1201 cggcaaggcc aggccaaagc cctgggcttg gatgagtca acttcatcaa ggtgttgggc  
1261 aaaggcagct ttggcaaggt catgttgga gaactcaagg gcaaatgata agtatatgct  
1321 gtgaaggtct taaagaagga cgtcatcctt caggatgatg acgtggactg cacaatgaca  
1381 gagaagagga ttttggtctt ggcacgaaa caccgtacc ttaccaact ctactgctgc  
1441 ttccagacca aggaccgcct ctttttcgtc atggaatatg taaatggtgg agacctcatg  
1501 tttcagattc agcgtcccg aaaattcgac gagcctcgtt cagggttcta tgctgcagag  
1561 gtcacatcgg cctcatgtt cctccatcag catggagtca tctacaggga tttgaaactg  
1621 gacaacatcc ttctggatgc agaaggtcag tgcaagctgg ctgacttcgg gatgtgcaag  
1681 gaagggattc tgaatggtgt gacgaccacc acgttctgtg ggactcctga ctacatagct  
1741 cctgagatcc tgcaggagtt ggagtatggc ccctccgtgg actggtgggc cctgggggtg  
1801 ctgatgtacg agatgatggc tggacagcct ccctttgagg ccgacaatga ggacgacctc  
1861 tttgagtcga tctccatga cgacgtgctg taccagctct ggctcagcaa ggaggctgtc  
1921 agcatcttga aagctttcat gacgaagaat cccacaagc gcctgggctg tgtggcatcg  
1981 cagaatggcg aggacgcat caagcagcac ccattcttca aagagattga ctgggtgctc  
2041 ctggagcaga agaagatcaa gccacccttc aaaccacgca ttaaaaccaa aagagacgtc  
2101 aataattttg accaagactt taccgggaa gagccgttac tcacccttgt ggacgaagca  
2161 attgtaaagc agatcaacca ggaggaattc aaaggtttct cctacttttg tgaagacctg  
2221 atgccctgag agccactgc agtt

## (2) INFORMATION FOR SEQ ID NO:168:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 218 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:168:

1 agccggcttc tggaaactcc ctgtgtgagt gtgagggaat gagtatgaac aaggcacatt  
61 atgtcttact tattgtatta gtttcctgtt gctgctgtag caagttacca ccaatttatg  
121 gcttaaagca attcaaattt tttctcttga attcttaaga tcagaagttc taaatgagtc  
181 taatggggct aaaatcaag tgttaggcaa aggcagct

## (2) INFORMATION FOR SEQ ID NO:169:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1830 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:169:

1 tgcagctgga gatccgggct cccacagcag atgagatcca cgtaactgtt ggcgaggccc  
61 gtaacctaat tcctatggac ccaatggct tctctgatcc ctatgtgaaa ctgaagctca  
121 tcccagaccc tcggaacctg acgaaacaga agaccgcaac ggtgaaagcc acgctaaacc

181 ctgtgtggaa tgagaccttt gtgttcaacc tgaagccagg ggatgtggag cgccggctca  
241 gcgtggaggt gtgggactgg gaccggacct cccgcaacga cttcatgggg gccatgtcct  
301 ttggcgtctc ggagctgctc aaggcgcccg tggatggctg gtacaagtta ctgaaccagg  
361 aggaggcgga gtattacaat gtgcccgtgg ccgatgctga caactgcagc ctctccaga  
421 agtttgaggc ttgtaactac cccctggaat tgtatgagcg ggtgcggatg ggccctctt  
481 cctctcccat cccctccctt tccctagtc ccaccgacct caagcgctgc ttcttcgggg  
541 cgagtccagg acgctgcac atctccgact tcagcttctt catggttcta ggaaaaggca  
601 gttttgggaa ggtgatgctg gccgagcgca ggggctctga tgagctctac gccatcaaga  
661 tcttgaaaaa ggacgtgatc gtccaggacg acgatgtgga ctgcacgctg gtggagaaac  
721 gtgtgctggc gctggggggc cggggtcctg gcggccggcc cacttctc accagctcc  
781 actccacctt ccagaccccg gaccgctgt atttctgtat ggagtacgtc accgggggag  
841 acttgatgta ccacattcaa cagctgggca agtttaagga gccccatgca gcgttctacg  
901 cggcagaaat cgctatcgcc ctcttcttcc ttcacaatca gggcatcatc tacagggacc  
961 tgaagctgga caatgtgatg ctggatgctg agggacacat caagatcact gactttggca  
1021 tgtgtaagga gaacgtcttc cccgggacga caaccgcac cttctgcggg acccggact  
1081 acatagcccc ggagatcatt gcctaccagc cctatgggaa gtctgtcgat tgggtgtcct  
1141 ttggagttct gctgtatgag atgttggcag gacagcctcc ctctgatggg gaggacgagg  
1201 aggagctgtt tcaggccatc atggaacaaa ctgtcaccta cccaagtcg ctttcccggy  
1261 aagcgtggc catctgcaag gggttcctga ccaagcacc agggaagcgc ctgggctcag  
1321 ggctgatgg ggaacctacc atcctgtcac atggctttt ccgctggatt gactgggagc  
1381 ggctggaacg attggagatc ccgctcctt tcagaccccg ccgctgtggc gcagcgcg  
1441 agaactttga caagtcttc acgcgggcgg cgccagcgct gacccctcca gaccgctag  
1501 tcctggccag catcgaccag gccgatttcc agggcttcac ctacgtgaac cccgacttcg  
1561 tgcacccgga tgcccgcagc cccaccagcc cagtgcctgt gccgctcatg taatctcacc  
1621 cgccgccact aggtgtcccc aacgtccct ccgctgtgc ggcgccagcc cacttcacc  
1681 cccaacttca ccacccctg tcccattcta gatcctgcac cccagcattc cagctctgcc  
1741 cccgcggtt ctagacgcc ctccaagcg ttcttgccct tctgaactcc atacagcctc  
1801 tacagccgtc ccgcttcaa gacttgagcg

## (2) INFORMATION FOR SEQ ID NO:170:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2196 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:170:

1 cgggggtgtct tgggcccggg cggctgtaga ggcggcgccg cctacgggca gtgggaggag  
61 ccgcgcggtt ccggctgctc cggcgaggcg acccttgggt cggcgctgcg ggcagggtggc  
121 aggtaggttg cggacggccg cggttctccg gcaagcgagc gcggcggag cccacggc  
181 gccggaagcg ccccccgca cccccggcct ccagcggtga ggccggggag tgaggagatg  
241 ccgaccaga gggacagcag caccatgtcc cacacggtcg caggcggcg cagcggggac  
301 cattcccacc aggtccgggt gaaagcctac taccgcgggg atatcatgat aacacatttt  
361 gaaccttcca tctccttga gggcctttgc aatgaggttc gagacatgtg ttcttttgac  
421 aacgaacagc tcttcaccat gaaatggata gatgaggaa gagaccgtg tacagatca  
481 tctcagttgg agttagaaga agccttta ga ctttatgagc taaacaagga ttctgaactc  
541 ttgattcatg tgttcccttg tgtaccagaa cgtcctggga tgccttgtcc aggagaagat  
601 aaatccatct accgtagagg tgcacgcgc tggagaaagc tttattgtgc caatggccac  
661 actttccaag ccaagcgttt caacaggcgt gctcactgtg ccactctgac agaccgaata  
721 tggggacttg gacgccaagg atataagtgc atcaactgca aactcttgg tcataagaag  
781 tgccataaac tcgtcacat tgaatgtggg cggcattctt tgccacagga accagtgtatg  
841 cccatggatc agtcatccat gcattctgac catgcacaga cagtaattcc atataatcct  
901 tcaagtcatg agagtgttga tcaagtgggt gaagaaaaag aggcaatgaa caccaggga  
961 agtggcaaa cttcatccag tctaggtctt caggattttg atttgcctcg ggtaatagga  
1021 agaggaaagt atgccaaagt actgttgggt cgattaaaaa aaacagatcg tatttatgca  
1081 atgaaagtgg tgaaaaaaga gcttgttaat gatgatgagg atattgattg ggtacagaca  
1141 gagaagcatg tgtttgagca ggcacccaat catcctttcc ttgttgggct gcattcttgc  
1201 tttcagacag aaagcagatt gttctttgtt atagagtatg taaatggagg agacctaatg  
1261 tttcatatgc agcgacaaag aaaacttctg gaagaacatg ccagatttta ctctgcagaa  
1321 atcagcttag cattaaatta tcttcagtag cgagggataa tttatagaga ttgaaactg  
1381 gacaatgtat tactggactc tgaaggccac attaaactca ctgactacgg catgtgtaag  
1441 gaaggattac ggccaggaga tacaaccagc actttctgtg gtactcctaa ttacattgct  
1501 cctgaaattt taagaggaga agattatgggt ttcagtgttg actggtgggc tcttgaggatg  
1561 ctcatgtttg agatgatggc aggaaggtct ccatttgata ttgttgggag ctccgataac  
1621 cctgaccaga acacagagga ttatctcttc caagttattt tggaaaaaca aattcgcata  
1681 ccacgttctc tgtctgtaaa agctgcaagt gttctgaaga gttttcttaa taaggaccct  
1741 aaggaacgat tgggttgta tctcaaaaca ggatttgctg atattcaggg acaccggttc  
1801 ttccgaaatg ttgattggga tatgatggag caaaaaacagg tggtaacctc ctttaaacca  
1861 aatatttctg gggaatttgg tttggacaac tttgattctc agtttactaa tgaacctgtc  
1921 cagctcactc cagatgacga tgacattgtg aggaagattg atcagttcta atttgaaggt  
1981 tttgagtata tcaatcctct tttgatgtct gcagaagaa gtgtctgtac ctcattttcc  
2041 aaccatgtat tctactcatg ttgccattta atgcatggat aaacttgcgt caagcctgga  
2101 tacaattaac cattttatat ttgccaccta caaaaaaaca cccaatatct tctcttgtag

2161 actatatgaa tcaattatta catctcgacc cggaat

(2) INFORMATION FOR SEQ ID NO:171:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2389 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:171:

```
1 gaattcggac ggaggaggca gaatggccag tcgaggggcg cttaggcggtg gcctttcccc
61 agggctgcct cgactcctgc acctgtcccc agggctggcc tgagacggga ctccccgttc
121 tcccgcctgc aagcaggccc cccggggccg gggcagcggc gccgcctgt cgtctggcac
181 catgaagttc aatggctatt tgagggtccg catcggtgag gcagtggggc tgcagccac
241 ccgctgggtcc ctgcgccact cgctcttcaa gaaggccac cagctgctgg acccctatct
301 gacgggtgagc gtggaccagg tgcgcgtggg ccagaccagc accaagcaga agaccaacaa
361 acccagctac aacgaggagt tttgcgctaa cgtcaccgac ggcggccacc tgcagttggc
421 cgtcttccac gagaccccc tgggctacga cttcgtggcc aactgcacc tgcagttcca
481 ggagctcgtc ggcacgaccg gcgcctcgga caccttcgag ggttgggtgg atctcgagcc
541 agaggggaaa gtatttgtgg taataaccct taccgggagt ttcactgaag ctactctcca
601 gagagaccgg atcttcaaac attttaccag gaagcgccaa agggctatgc gaaggcgagt
661 ccaccagatc aatggacaca agttcatggc cagtatctg aggcagccca cctactgctc
721 tcactgcagg gagtttatct tgggagtgtt tgggaaacag ggttatcagt gccaatgtg
781 cacctgtgtc gtccataaac gctgccatca tctaattgtt acagcctgta cttgccaaaa
841 caatattaac aaagtggatt caaagattgc agaacagagg ttcgggatca acatcccaca
901 caagttcagc atccacaact acaaagtggc aacattctgc gatcactgtg gctcactgct
961 ctggggaata atgcgacaag gacttcagt taaaaatgtg aaaatgaatg tgcattatcg
1021 atgtcaagcg aacgtggccc ctaactgtgg ggtaaatgcg gtggaacttg ccaagacct
1081 ggcagggatg ggtctccaac ccggaatat tctccaacc tcgaaactcg tttccagatc
1141 gaccctaaga cgacagggaa aggagagcag caaagaagga aatgggattg gggtaattc
1201 ttccaaccga cttggtatcg acaacttga gttcatccga gtgttgggga aggggagttt
1261 tgggaagggt atgcttgcaa gagtaaaaga aacaggagac ctctatgctg tgaagggtgt
1321 gaagaaggac gtgattctgc tggatgatga tgtggaatgc accatgaccg agaaaaggat
1381 cctgtctctg gcccgcaatc accccttctt cactcagttg tttctgtgct ttcagacccc
1441 cgatcgtctg ttttttgtga tggagtgtgt gaatgggggt gacttgatgt tccacattca
1501 gaagtctcgt cgtttttagt aagcacgagc tcgcttctat gctgcagaaa tcatttcggc
1561 tctcatgttc ctccatgata aaggaatcat ctatagagat ctgaaactgg acaatgtcct
1621 gttggaccac gagggctact gtaaactggc agacttcgga atgtgcaagg aggggattg
1681 caatggtgtc accacggcca cattctgtgg cacgccagac tatatcgctc cagagatcct
1741 ccaggaaatg ctgtacgggc ctgcagtaga ctggtgggca atgggcgtgt tgccttatga
1801 gatgctctgt ggtcacgcgc cttttgaggc agagaatgaa gatgacctct ttgaggecat
1861 gatgaatgat gaggtgtgtc accctacctg gctccatgaa gatgccacag ggtacctaaa
1921 atctttcatg accaagaacc ccaccatgcg cttgggcagc ctgactcagg gaggcgagca
1981 cgccatcttg agacatcctt tttttaagga aatcgactgg gccagctga accatcgcca
2041 aatagaaccg cctttcagac ccagaatcaa atcccagaaa gatgtcagta attttgacc
2101 tgacttcata aaggaagagc cagttttaac tccaattgat gagggacatc ttccaatgat
2161 taaccaggat gagtttagaa acttttcta tgtgtctcca gaattgcaac catagcctta
2221 tggggagtga gagagagggc acgagaaccc aaaggaatag agattctcca ggaatttctt
2281 ctatcggaac ttcccagcat cagccttaga acaagaacct tacctcaag gagcaagtga
2341 agaactctgt cgaaggatgg aactttcaga tatcaactat tttagatcc
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(2) INFORMATION FOR SEQ ID NO:172:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3742 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:172:

```
1 gaattccttc tctcctctc ctcgcccttc tctcgcctt cctcctctc ctcgccctcc
61 cctcccgatc ctcatccctt tgcctcccc cagcccaggg acttttccgg aaagttttta
121 ttttcgtctt gggctctcgg agaaagaagc tcttggtca gcggtgcaa aactttcgt
181 ctgcgcgccc gccagcccc cccctccgct gccccggcct gcgccccgc gagcgatgag
241 cgccccctcg gtcctgcggc cgcccagtc gctgctgcc gtggcgggcg cagctgccgc
301 agcggccgccc gactgggtcc cagggtccgg gcccgggccc gcgcggttct tggctcctgt
361 cgcggccccc gtcgggggca tctcgttcca tctgcagatc ggcctgagcc gtgagccggt
421 gctgctgctg caggactcgt ccggggacta cagcctggcg cagctccgag agatggcttg
481 ctccattgtc gaccagaagt tccctgaatg tggtttctac ggaatgtatg ataagatcct
541 gctttttcgc catgacccta cctctgaaaa catccttcag ctggtgaaag cgccagtgga
601 tatccaggaa ggcgatctta ttgaagtgg cttgtcacgt tccgccacct ttgaagactt
661 tcagattcgt cccacgctc tctttgttca ttcatacaga gctccagctt tctgtgatca
721 ctgtggagaa atgctgtggg ggctggtacg tcaaggtctt aaatgtgaa ggtgtggtct
781 gaattaccat aagagatgtg catttaaaat acccaacaat tgacggcggt tgagggcgag
841 aaggctctca aacgtttccc tcaactgggt cagcaccatc cgcacatcat ctgctgaact
901 ctctacaagt gcccctgatg agcccttctt gcaaaaaatc ccatcagagt cgtttattgg
961 tcgagagaag aggtcaaat ctcaatcata cattggacga ccaattcacc ttgacaagat
1021 tttgatgtct aaagttaaag tgccgcacac atttgcctac cactcctaca cccggccac
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1081 agtgtgccag tactgcaaga agcttctgaa ggggcttttc aggcagggct tgcagtgcac
1141 agattgcaga ttcaactgcc ataaacgttg tgcaccgaaa gtaccaaaca actgccttgg
1201 cgaagtgcac attaatggag atttgcctag ccctggggca gactctgatg ttgctcaggga
1261 agaagggagt gatgacaatg atagtgaag gaacagtggg ctcatggatg atatggaaga
1321 agcaatggtc caagatgcag agatggcaat ggcagagtgc cagaacgaca gtggcgagat
1381 gcaagatcca gaccagacc acgaggacgc caacagaacc atcagtccat caacaagcaa
1441 caatatccca ctcatgaggg tagtgacgtc tgtcaaacac acgaagagga aaagcagcac
1501 agtcattgaa gaaggatgga tggctcacta caccagcaag gacacgtgac ggaaacggca
1561 ctattggaga ttggatagca aatgtattac cctctttcag aatgacacag gaagcaggta
1621 ctacaaggaa attcctttat ctgaaatttt gtctctggaa ccagtaaaaaa cttcagcttt
1681 aattcctaatt ggggccaatc ctcatgtttt cgaaatcact acggcaaatg tagtgtatta
1741 tgtggggagaa aatgtggtca atccttccag cccatcacca aataacagtg ttctcaccag
1801 tggcgttggg gcagatgtgg ccaggatgtg ggagatagcc atccagcatg ccttatggc
1861 cgtcattccc aagggtcctt ccgtgggtac aggaaccaac ttgcacagag atatctctgt
1921 gagtatttca gtatcaaat gccagattca agaaaatgtg gacatcagca cagtatatca
1981 gatttttctt gatgaagtac tgggttctgg acagtttgga attgtttatg gaggaaaaaca
2041 tcgtaaaaaca ggaagagatg tagctattaa aatcattgac aaattacgat ttccaacaaa
2101 acaagaaagc cagcttcgta atgaggttgc aattctacag aaccttcac accctggtgt
2161 tgtaaatttg gagtgtatgt ttgagacgcc tgaaagagtg tttgttgta tggaaaaact
2221 ccatggagac atgctggaaa tgatcttgct aagtgaagag ggcagggtgc cagagcacat
2281 aacgaagttt ttaattactc agatactcgt ggctttgcgg cacttccatt taaaaatat
2341 cgttccactgt gacctcaaac cagaaaaatgt gttgctagcc tcagctgac cttttcctca
2401 ggtgaaactt ttgtattttg gttttgccc gatcattgga gagaagtctt tccggagggtc
2461 agtgggtggg acccccgctt acctggctcc tgaggtccta aggaacaagg gctacaatcg
2521 ctctctagac atgtggtctg ttggggtcat catctatgta agcctaagcg gcacattccc
2581 atttaatgaa gatgaagaca tacacgacca aattcagaat gcagctttca tgtatccacc
2641 aaatccctgg aaggaaatat ctcatgaagc cattgatctt atcaacaatt tgctgcaagt
2701 aaaaatgaga aagcgctaca gtgtggataa gaccttgagc cacccttggc tacaggacta
2761 tcagacctgg ttagatttgc gagagctgga atgcaaaatc ggggagcgct acatcaccca
2821 tgaaagtgat gacctgaggt gggagaagta tgcaggcgag cagcggtgc agtaccacac
2881 acacctgatc aatccaagtg ctagccacag tgacactcct gagactgaag aaacagaaat
2941 gaaagccctc ggtgagcgtg tcagcatcct ctgagttcca tctcctataa tctgtcaaaa
3001 cactgtggaa ctaataaata catacgttca ggtttaacat ttgccttgca gaactgccat
3061 tattttctgt cagatgagaa caaagctgtt aaactgttag cactgttgat gtatctgagt
3121 tgccaagaca aatcaacaga agcatttcta ttttgtgta ccaactgtgt tgtattaaca
3181 aaagtccctt gaaacacgaa acttgttatt gtgaatgatt catgttatat ttaatgcatt
3241 aaacctgtct ccactgtgcc ttgcaaaatc agtgttttct ttaactggagc ttcattttgg
3301 taagagacag aatgtatctg tgaagtgtt ctgtttgggt tgtcccattg gtgtgtcat
3361 tgtaaacaaa ctcttgaaga gtcgattatt tccagtgttc tatgaacaac tccaaaaccc
3421 atgtgggaaa aaaatgaatg aggagggtag ggaataaaat cctaagacac aaatgcatga
3481 acaagtttta atgtatagtt ttgaatcctt tgcctgcctg gtgtgcctca gtatatataa
3541 actcaagaca atgcacctag ctgtgcaaga cctagtgtc ttaagcctaa atgctctaga
3601 aatgtaaaact gccatatata acagatacat ttccctcttt cttataatac tctgtgtac
3661 tatggaaaat cagctgctca gcaacctttc acctttgtgt atttttcaat aataaaaaat
3721 attcttgtca aaaaaaaaaa aa

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## (2) INFORMATION FOR SEQ ID NO:173:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2705 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:173:

```

1 tgctcgctcc agggcgcaac catgtcgcca tttcttcgga ttggcttgc caactttgac
61 tgcgggtcct gccagtcttg tcagggcgag gctgttaacc cttactgtgc tgtgctcgct
121 aaagagtatg tcgaatcaga gaacggcgag atgtatatcc agaaaaagcc taccatgtac
181 ccaccctggg acagcacttt tgatgccat atcaacaagg gaagagtcac gcagatcatt
241 gtgaaaggca aaaacgtgga cctcatctct gaaaccaccg tggagctcta ctcgtggct
301 gagaggtgca ggaagaacaa cggaagaca gaaatatggt tagagctgaa acctcaaggc
361 cgaatgctaa tgaatgcaag atactttctg gaaatgagtg acacaaggga catgaatgaa
421 tttgagacgg aaggcttctt tgctttgcat cagcgccggg gtgccatcaa gcaggcaaa
481 tcccaccacg tcaagtgcc aaggttctct gccaccttct tcccacagc cacattttgc
541 tctgtctgcc acgagtttgt ctggggcctg aacaaacagg gctaccagtg ccgacaatgc
601 aatgcagcaa ttcacaagaa gtgtattgat aaagttagat caaagtgcac aggatcagct
661 atcaatagcc gagaaacat gttccacaag gagagattca aaattgacat gccacacaga
721 tttaaagtct acaattacaa gagcccagcc ttctgtgaac actgtgggac cctgtgtg
781 ggactggcac ggcaaggact caagtgtgat gcatgtggca tgaatgtgca tcatagatgc
841 cagacaaagg tggccaacct ttgtggcata aaccagaagg taatggctga agcgtggcc
901 atgattgaga gcaactcaaa ggctcgctgc ttaagagata ctgaacagat cttcagagaa
961 ggtccggttg aaattggtct cccatgctcc atcaaaaatg aagcaaggcc gccatgttta
1021 ccgacaccgg gaaaaagaga gcctcagggc atttcttggg agtctccgtt ggtgaggtg
1081 gataaaatgt gccatcttcc agaaccctga ctgaacaaag aaagaccatc tctgcagatt
1141 aaactaaaaa ttgaggattt tatcttgac aaaaatgttg ggaaaggaag ttttggcaag
1201 gtcttcttgg cagaattcaa gaaaaccaat caatttttgc caataaaggc cttaaagaaa
1261 gatgtggtct tgatggacga tgatgttag tgcacgatgg tagagaagag agtcttttcc

```

1321 ttggcctggg agcatccgtt tctgacgcac atgttttcta cattccagac caaggaaaac  
1381 ctcttttttg tgatggagta cctcaacgga ggggacttaa tgtaccacat ccaaagctgc  
1441 cacaagtctg acctttccag agcgacgttt tatgctgctg aaatcattct tggctctgag  
1501 ttccttcatt ccaaaggaat agtctacagg gacctgaagc tagataacat cctgttagac  
1561 aaagatggac atatcaagat cgcggatttt ggaatgtgca aggagaacat gttaggagat  
1621 gccaagacga ataccttctg tgggacacct gactacatcg cccagagat ctgtctgggt  
1681 cagaaatata accactctgt ggactgggtg tccttcgggg ttctccttta tgaaatgctg  
1741 attggtcagt cgcctttcca cgggcaggat gaggaggagc tcttccactc catccgcatg  
1801 gacaatccct tttaccacag gtggtgggag aaggaagcaa aggaccttct ggtgaagctc  
1861 ttcgtgcgag aacctgagaa gaggtggggc gtgaggggag acatccgcca gcaccctttg  
1921 tttcgggaga tcaactggga ggaacttgaa cggaaaggaga ttgaccaccg gttccggccg  
1981 aaagtgaat caccatttga ctgcagcaat ttcgacaaag aattcttaaa cgagaagccc  
2041 cggctgtcat ttgccgacag agcactgatc aacagcatgg accagaatat gttcaggaaac  
2101 ttttcttca tgaaccccg gatggagcgg ctgatatacct gaatcttgcc cctccagaga  
2161 caggaaagaa tttgccttct ccttggaaga tggttcaaga gacactgctt gggttcttt  
2221 ttcaacttgg aaaaagaaag aaacactcaa caataaagac tgagaccctg tcgccccat  
2281 gtgactttat ctgtagcaga aaccaagtct acttactaa tgacgatgcc gtgtgtctcg  
2341 tctcctgaca tgtctcacag acgctcctga agttaggta ttactaacca tagttattta  
2401 cttgaaagat gggctctccg acttggaag gtttcaagac ttgatactgc aataaattat  
2461 ggctcttcac ctgggcgcca actgctgatc aacgaaatgc ttgttgaatc aggggcaaac  
2521 ggagtagaca cgtctcaaga ctgaaacggc ccatttgctt ggtctagtag cggatctcac  
2581 tcagccgag acaagtaatc actaaccctg tttattctat cctatctgtg gatgtataaa  
2641 tgctgggggc cagccctgga taggttttta tgggaattct ttacaataaa catagcttgt  
2701 acttg

## (2) INFORMATION FOR SEQ ID NO:174:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1779 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:174:

1 atgccaagca ggaccgaccc caagatggaa gggagcggcg gccgcgtccg cctcaaggcg  
61 cattacgggg gggacatctt catcaccagc gtggacgccc ccacgacctt cgaggagctc  
121 tgtgaggag tgagagacat gtgtcgtctg caccagcagc acccgctcac cctcaagtgg  
181 gtggacagcg aaggtgaccc ttgcacggtg tcctccaga tggagctgga agaggctttc  
241 cgcctggccc gtcagtgcag ggatgaaggc ctcatcattc atgttttccc gagcaccctt  
301 gagcagcctg gcctgccatg tccgggagaa gacaaatcta tctaccgccc gggagccaga  
361 agatggagga agctgtaccg tgccaacggc cacctcttcc aagccaagcg ctttaacagg  
421 agagcgtact cgcgtcagtg cagcgagagg atatggggcc tcgagagga aggtcacag  
481 tgcataact gcaaaactgt ggtccataag cgtgccacg gccctgctcc gctgacctgc  
541 aggaagcata tggattctgt catgccttcc caagagcctc cagtagacga caagaacgag  
601 gacgccgacc ttccttccga ggagacagat ggaattgctt acatttcttc atcccggaa  
661 catgacagca ttaaagacga ctccggaggc ctttaagccag ttatcgatgg gatggatgga  
721 atcaaaatct ctacggggct tggcgtgcag gactttgacc taatcagagt catcgggccc  
781 gggacgtacg ccaaggttct cctgggtgccc ttgaagaaga atgaccaaatt ttacgccatg  
841 aaagtgggta agaaagagct ggtgcatgat gacgaggata ttgactgggt acagacagag  
901 aagcacgtgt ttgagcaggc atccagcaac cccttccttg tcggattaca ctctgcttc  
961 cagacgacaa gtcggttgtt cctgggtcatt gactacgtca acggcgggga cctgatgttc  
1021 cacatgcaga ggcagaggaa gctccctgag gagcacgcca ggttctacgc ggccgagatc  
1081 tgcacgccc tcaacttctt gcacgagagg gggatcatct acagggacct gaagctggac  
1141 aacgtctctc tggatgcgga cggacacatc aagctcacag actacggcat gtgcaaggaa  
1201 ggcctgggccc ctgggtgacac aacgagcact ttctgcggaa ccccgaaata catcgccccc  
1261 gaaatcctgc ggggagagga gtacgggttc agcgtggact ggtgggcgct gggagtcctc  
1321 atgttttcta tgatggcggc gcgtcccccg ttcgacatca tcaccgacaa cccgacatg  
1381 aacacagagg actacctttt ccaagtgatc ctggagaagc ccatccggat ccccggttc  
1441 ctgtccgtca aagcctccca tgttttaaaa ggatttttaa ataaggaccc caaagagagg  
1501 ctggctgccc ggccacagac tggattttct gacatcaagt cccacgcgtt cttccgcagc  
1561 atagactggg acttgctgga gaagaagcag gcgctccctc cattccagcc acagatcaca  
1621 gacgactacg gtctggacaa ctttgacaca cagttcacca gcgagcccg gcagctgacc  
1681 ccagacgatg aggatgccat aaagaggatc gaccagtcag agttcgaagg ctttgagtat  
1741 atcaaccatc tattgtgtgc caccgaggag tccgtgtga

## (2) INFORMATION FOR SEQ ID NO:175:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 239 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:175:

1 tgtcatgcct tccaagagc ctccaggatg gctgtcctcc gacctctcc acctccaggc  
61 tctagatggc aaagcccact tagcaaaagc cacctgctct gtgatgatgg gactggctcc  
121 tgcctgtggg ttcggaaaag ccatccacc ctctacagcc tcttgcctct ctgcaatgac

181 tgtgccttca cctgggggtt cccagagac tagtgagagt catcgggcgt ggaagctat

(2) INFORMATION FOR SEQ ID NO:176:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38634 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:176:

1 ggagcaagag gtggttggg ggggaccatg gctgacgtt tcccgggcaa cgactccacg  
61 gcgtctcagg acgtggccaa ccgcttcgcc cgcaaaggcg cgctgaggca gaagaacgtg  
121 cagcaggtga aggaccacaa attcatcgcg cgcttcttca agcagcccac cttctgcagc  
181 cactgcaccg acttcatctg ggggtttggg aaacaaggct tccagtgcga agtttgcgtg  
241 tttgtgggtc acaagagggt ccatgaattt gttacttttt cttgtccggg tgcggataag  
301 ggacccgaca ctgatgaccc caggagcaag cacaagttca aaatccacac ttacgggaagc  
361 cccaccttct gcgatcactg tgggtcactg ctctatggac ttatccatca agggatgaaa  
421 tgtgacacct gcgatatgaa cgttcacaag caatgcgtca tcaatgtccc cagcctctgc  
481 ggaatggatc aactgagaa gagggggcgg atttacctaa aggctgaggt tgctgatgaa  
541 aagctccatg tcacagtacg agatgcaaaa aatctaattc ctatggatcc aaacgggctt  
601 tcagatcctt atgtgaagct gaaacttatt cctgatccca agaatgaaag caagcaaaaa  
661 accaaaacca tccgctccac actaaatccg cagtggaaat agtctttac attcaaatg  
721 aaaccttcag acaagaccg acgactgtct gtagaaatct gggactggga tcgaacaaca  
781 aggaatgact tcatgggac cctttccttt ggagtttcgg agctgatgaa gatgccggcc  
841 agtggatggt acaagttgct taaccaagaa gaaggtagt actacaacgt acccattccg  
901 gaaggggacg aggaaggaaa catggaactc aggcagaaat tcgagaaagc caaacttggc  
961 cctgctggca acaagtcac cagtcctctc gaagacagga aacaaccttc caacaacctt  
1021 gaccgagtga aactcacgga cttcaatttc ctcatggtgt tgggaaaggg gagttttgga  
1081 aaggtgatgc ttgccgacag gaagggcaca gaagaactgt atgcaatcaa aatcctgaag  
1141 aaggtatgtg tgattcagga tgatgactgt gagtgacca tggtagaaaa gcgagcttg  
1201 gccctgcttg acaaaccccc gttcttgacg cagctgcact cctgcttcca gacagtggat  
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1321 gtaggaaaat ttaaggaacc acaagcagta ttctatgcgg cagagatttc catcggattg  
1381 ttctttcttc ataaaagagg aatcatttat agggatctga agttagataa cgtcatgttg  
1441 gattcagaag gacatatcaa aattgctgac ttgggatgt gcaaggaaac catgatggat  
1501 ggagtcacga ccaggacctt ctgtgggact ccagattata tcgccccaga gataatcgct  
1561 tatcagccgt atggaaaatc tgtggactgg tgggcctatg cgtcctgtt gtatgaaatg  
1621 cttgccgggc agcctccatt tgatggtgaa gatgaagac agctatttca gtcctatcatg  
1681 gagcacaacg tttctatcc aaaaatcctg tccaaggagg ctgtttctat ctgcaaggga  
1741 ctgatgacca aacaccgacg caagcggctg ggctgtgggc ctgaggggga gagggacgtg  
1801 agagagcatg cttcttccg gaggatcgac tgggaaaaac tggagaacag ggagatccag  
1861 ccaccattca agcccaaagt gtgtggcaaa ggagcagaga actttgacaa gttcttcaca  
1921 cgaggacagc ccgtcttaac accacctgat cagctgggta ttgctaacat agaccagtct  
1981 gattttgaag ggttctcgta tgtcaacccc cagtttgtgc acccatctt acagagtga  
2041 gtatgaaact caccagcgag acaaacacc tcccagccc ccagccctcc ccgagtgga  
2101 agtgaatcct taaccctaaa attttaaggc cacggcttgt gtctgattcc atatggaggc  
2161 ctgaaaattg taggttatt agtccaaatg tgatcaactg ttcagggtct ctctcttaca  
2221 accaagaaca ttatcttagt ggaag  
1 cttatcacag ttcaagtgt ttccagaagt tccagggtt ctgagagacc atcaaggga  
61 ctttaacaac ttgacaaatg tccttgaagt aagatgcctc atctttaggg aaaaatgggg  
121 tttggatttc tgcttaggca aagtctctg cagttcatcc ttctctgtcc tcttctgtct  
181 tcaggcttgg ggaccgtccc tgctgtcccc actgtgggtg caatcaggac ctaaggtgaa  
241 gcaacttga agttctatct gacaagtta ggcagtaaga gaaggaggga aatcggagca  
301 aagctccctc actttattgt tgagaaactg gcatctggaa agaagaagga atttgcccaa  
361 agtcagtcag ctgggataaa aacctgggtg tctgtccag aaagtgcagg gtgctttctg  
421 ctctgtagca aggcagcaga catctctgag ccaggccac caacaggccc ttatctgttg  
481 gttggatcat gatccattt tgccttgaca tgccttcagg aagataaaaa ccatggagaa  
541 aactagggc attgacaaat gatctgagac aactttagaa aacaatgtag gatgaatgga  
601 aagagaaaga aaggaaagaa aaaaaaaaaa aaaagg  
1 cagagccggc gcaggggaag cgccggggc cccgggtgca gcagcgccc cgccctccc  
61 ggcctccccg gcccgagcc cggggtcccg ggccccggg ccggcacctc tggggctccg  
121 gctccccg cgcaagatgg ctgaccggc tgccggggcc cgccgagcg agggcgagga  
181 gagcaccgtg cgcttcgcc gcaaggcg cctccggcag aagaacgtc atgaggtcaa  
241 gaaccacaaa ttcaccggcc gcttcttcaa gcagcccacc ttctgcagcc actgcaccga  
301 cttcatctgg ggcttcggga agcagggtt ccagtgcga gtttgcgtct ttgtgtgca  
361 caagcgggtg catgaattt tcacattctc ctgccctggc gctgacaagg gtccagcctc  
421 cgatgacccc cgcagcaaac acaagtttaa gatccacacg tactccagcc ccacgtttt  
481 tgaccactgt gggcactgc tgtatggact catccaccag gggatgaaat gtgacacctg  
541 catgatgaat gtgcacaagc gctgcgtgat gaatgttccc agcctgtgtg gcacggacca  
601 caggagcgc cgcgccgca tctacatcca gggccacatc gacagggacg tctcattgt



661 cctcgtaaga gatgctaaaa acctgtacc tatggacccc aatggcctgt cagatcccta  
721 cgtaaaactg aaactgattc ccgatcccaa aagtgaagac aaacagaaga ccaaaaccat  
781 caaatgctcc ctcaaccctg agtgaatga gacatttaga tttcagctga aagaatcgga  
841 caaagacaga agactgtcag tagagatttg ggattgggat ttgaccagca ggaatgactt  
901 catgggatct ttgtcctttg ggatttctga acttcagaag gccagtgttg atggctgggt  
961 taagtactg agccaggagg aaggcgagta cttcaatgtg cctgtgccac cagaaggaaag  
1021 tgaggccaat gaagaactgc ggcagaaatt tgagagggcc aagatcagtc agggaaacca  
1081 ggtcccggaa gaaaagacga ccaacactgt ctccaaattt gacaacaatg gcaacagaga  
1141 ccggatgaaa ctgaccgatt ttaacttcct aatgggtgctg gggaaaggca gctttggcaa  
1201 ggtcatgctt tcagaacgaa aaggcacaga tgagctctat gctgtgaaga tcctgaagaa  
1261 ggacgttggt atccaagatg atgacgtgga gtgcactatg gtggagaagc ggggtgtggc  
1321 cctgcctggg aagccgccct tcctgaccca gctccactcc tgcttcaga ccatggaccg  
1381 cctgtacttt gtgatggagt acgtgaatgg gggcgacctc atgtatcaca tccagcaagt  
1441 cggccggttc aaggagcccc atgctgtatt ttacgctgca gaaattgcca tcggtctgtt  
1501 cttcttacag agtaagggca tcatttaccg tgacctaaaa cttgacaacg tgatgctcga  
1561 ttctgaggga cacatcaaga ttgccgattt tggcatgtgt aaggaaaaca tctgggatgg  
1621 ggtgacaacc aagacattct gtggcactcc agactacatc gcccccgaga taattgctta  
1681 tcagccctat gggaagtccg tggattgggt ggcatattgga gtcctgctgt atgaaatgtt  
1741 ggctgggcag gcaccctttg aaggggagga tgaagatgaa ctcttccaat ccatcatgga  
1801 acacaacgta gcctatccca agtctatgtc caaggagct gtggccatct gcaaagggt  
1861 gatgacaaa caccagggca aacgtctggg ttgtggacct gaaggcgaaac gtgatataca  
1921 agagcatgca tttttccggt atattgattg ggagaaactt gaacgcaaag agatccagcc  
1981 cccttataag ccaaaagcta gagacaagag agacacctcc aacttcgaca aagagttcac  
2041 cagacagcct gtggaactga ccccaactga taaactcttc atcatgaact tggacaaaaa  
2101 tgaatttgct ggcttctctt atactaaccc agagtgtgtc attaatgtgt aggtgaatgc  
2161 aaactccatc gttgagcctg ggggtgaaga cttcaagcca agcgtatgta tcaattctag  
2221 tcttcagga ttcacggtgc acatgctggc attcaacatg tggaaagctt gtcttagagg  
2281 ctttcttgt atgtgtagct tgctagtttg tttctacat ttgaaaatgt ttagttaga  
2341 ataagcgcac tatccaatta tagaggtaaca attttccaaa ctccagaaa ctcatacaat  
2401 gaacagacaa tgtcaaaact actgtgtctg ataccaaaat gcttcagtat ttgtaatttt  
2461 tcaagttaga agctgatgtt cctggtaaaa gtttttacag ttattctata atattctctt  
2521 tgaatgctaa gcatgagcga tatttttaaa aattgtgagt aagcttcgga attc  
1 cagagccggc gcaggggaa gcgccgggc cccgggtgca gcagcgccg ccgctcccg  
61 ggctcccccg gcccgagcc cggggtcccg ggccccggg cggcacctc tcgggctccg  
121 gctccccg cgcaagatgg ctgaccggc tgccgggccc ccgcccagcg agggcgagga  
181 gagcaccgtg cgcttcgccc gcaaaggcgc cctccggcag aagaacgtgc atgaggtcaa  
241 gaaccacaaa ttcaccgccc gcttcttcaa gcagcccacc ttctgcagcc actgcaccca  
301 cttcatctgg ggcttcggga agcagggatt ccagtgccaa gtttgcgtct ttgtggtgca  
361 caagcgggtg catgaatttg tcacattctc ctgccctggc gctgacaagg gtccagcctc  
421 ctgaccccc cgagcaaac acaagtttaa gatccacacg tactccagcc ccacgttttg  
481 tgaccactgt gggtaactgc tgtatggact catccaccag gggatgaaat gtgacacctg  
541 catgatgaat gtgcacaagc gctgcgtgat gaatgttccc agcctgtgtg gcacggacca  
601 cagggagcgc cggggcgca tctacatcca ggcccacatc gacagggacg tcctcattgt  
661 cctcgtaaga gatgctaaaa acctgtacc tatggacccc aatggcctgt cagatcccta  
721 cgtaaaactg aaactgattc ccgatcccaa aagtgaagac aaacagaaga ccaaaaccat  
781 caaatgctcc ctcaaccctg agtgaatga gacatttaga tttcagctga aagaatcgga  
841 caaagacaga agactgtcag tagagatttg ggattgggat ttgaccagca ggaatgactt  
901 catgggatct ttgtcctttg ggatttctga acttcagaag gccagtgttg atggctgggt  
961 taagtactg agccaggagg aaggcgagta cttcaatgtg cctgtgccac cagaaggaaag  
1021 tgaggccaat gaagaactgc ggcagaaatt tgagagggcc aagatcagtc agggaaacca  
1081 ggtcccggaa gaaaagacga ccaacactgt ctccaaattt gacaacaatg gcaacagaga  
1141 ccggatgaaa ctgaccgatt ttaacttcct aatgggtgctg gggaaaggca gctttggcaa  
1201 ggtcatgctt tcagaacgaa aaggcacaga tgagctctat gctgtgaaga tcctgaagaa  
1261 ggacgttggt atccaagatg atgacgtgga gtgcactatg gtggagaagc ggggtgtggc  
1321 cctgcctggg aagccgccct tcctgaccca gctccactcc tgcttcaga ccatggaccg  
1381 cctgtacttt gtgatggagt acgtgaatgg gggcgacctc atgtatcaca tccagcaagt  
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3541 actcaagaca atgcacctag ctgtgcaaga cctagtgtc ttaagcctaa atgccttaga  
3601 aatgtaaaact gccatatata acagatacat ttccctcttt cttataatac tctgtgttac  
3661 tatggaaaat cagctgctca gcaacctttc acctttgtgt atttttcaat aataaaaaat  
3721 attcttgtca aaaaaaaaaa aa

1 tgctcgtcc agggcgcaac catgtcgcca tttcttcgga ttggcttgc caactttgac

61 tgcgggtcct gccagtcttg tcagggcgag gctgttaacc cttactgtgc tgtgctcgtc  
121 aaagagtatg tcgaatcaga gaacgggcag atgtatatcc agaaaaagcc taccatgtac  
181 ccacctggg acagcacttt tgatgcccac atcaacaagg gaagagtcac gcagatcatt  
241 gtgaaaggca aaaacgtgga cctcatctct gaaaccaccg tggagctcta ctgctggct  
301 gagagtgca ggaagaaca cggaagaca gaaatatggt tagagctgaa acctcaaggc  
361 cgaatgctaa tgaaatgcaag ataactttctg gaaatgagt acacaaagga catgaatgaa  
421 ttgagacgg aaggcttctt tgctttgcat cagcgccggg gtgccatcaa gcaggcaag  
481 gtccaccacg tcaagtgcca cgagttcact gccaccttct tcccacagcc cacattttgc  
541 tctgtctgcc acgagtttgt ctggggcctg aacaaacagg gctaccagtg ccgacaatgc  
601 aatgcagcaa ttcacaagaa gtgtattgat aaagtatatg caaagtgcac aggatcagct  
661 atcaatagcc gagaaacat gttccacaag gagagattca aaattgacat gccacacaga  
721 tttaaagtct acaattaca gagcccgacc ttctgtgaac actgtgggac cctgtctgtg  
781 ggactggcac ggcaaggact caagtgtgat gcatgtggca tgaatgtgca tcatgatgc  
841 cagacaaagg tggccaacct ttgtggcata aaccagaagc taatggctga agcgttggcc  
901 atgattgaga gcaactaaca ggctcgtgc ttaagagata ctgaacagat cttcagagaa  
961 ggtccggttg aaattggtct cccatgtctc atcaaaaatg aagcaaggcc gccatgttta  
1021 ccgacaccgg gaaaaagaga gcctcagggc atttctctgg agtctccgtt ggatgaggtg  
1081 gataaaatgt gccatcttcc agaacctgaa ctgaacaaag aaagaccatc tctgcagatt  
1141 aaactaaaaa ttgaggattt tatcttgac aaaatgttgg ggaagggaag ttttggcaag  
1201 gtcttctctg cagaattcaa gaaaaccaat caatttttct caataaaggc cttaaagaaa  
1261 gatgtggtct tgatggacga tgatgttgat tgcacgatgg tagagaagag agttctttcc  
1321 ttggcctggg agcatccgtt tctgacgcac atgttttgtta cattccagac caaggaaaac  
1381 ctcttttttg tgatggagta cctcaacgga ggggacttaa tgtaccacat ccaaagctgc  
1441 cacaagttcg acctttccag agcgacgttt tatgtctgtg aaatcattct tggctctgcag  
1501 ttccttcatt ccaaaggaa agtctacagg gacctgaagc tagataacat cctgttagac  
1561 aaagatggac atatcaagat cgcggtttt ggaatgtgca aggagaacat gttaggagat  
1621 gccaaagacga ataccttctg tgggacacct gactacatcg cccagagat cttgctgggt  
1681 cagaaataca accactctgt ggactgggtg tcttctgggg ttctcttcta tgaaatgctg  
1741 attggtcagt cgcctttcca cgggcaggat gaggaggagc tcttccactc catccgatg  
1801 gacaatccct ttaccacag gtggctggag aaggaaagcaa aggaccttct ggtgaagctc

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1861 ttcgtgcgag aacctgagaa gaggtctggc gtgaggggag acatccgcc aaccctttg
1921 tttcgggaga tcaactggga ggaacttgaa cggaaggaga ttgaccacc gttccggccg
1981 aaagtgaat caccatttga ctgcagcaat ttcgacaaag aattcttaaa cgagaagccc
2041 cggtgtcat ttgccgacag agcactgatc aacagcatgg accagaatat gttcaggaac
2101 ttttccttca tgaaccccg gatggagcgg ctgatctct gaatcttgcc cctccagaga
2161 caggaaagaa tttgccttct ccctgggaac tggttcaaga gacactgctt gggttccttt
2221 ttcaacttgg aaaaagaaag aaacactcaa caataaagac tgagaccgtt tcgccccat
2281 gtgactttat ctgtacaga aaccaagtct acttactaa tgacgatgcc gtgtgtctcg
2341 tctcctgaca tgtctcacag acgtccttga agtttaggtca ttactaacca tagttattta
2401 cttgaaagat gggctctccg acttggaag gtttcaagac ttgatactgc aataaattat
2461 ggctcttcac ctgggcgcca actgctgatc aacgaaatgc ttgttgaatc aggggcaaac
2521 ggagtacaga cgtctcaaga ctgaaacggc ccattgcct ggtctagtag cggatctcac
2581 tcagccgcag acaagtaatc actaaccgt tttattctat cctatctgtg gatgtataaa
2641 tgctgggggc cagccctgga taggttttta tgggaattct ttacaataaa catagcttgt
2701 acttg

```

```

1 atgccagca gaccgaccc caagatgga gggagcggc gccgcgtcc cctcaaggc
61 cattacggg gggacatctt catcaccagc gtggacgccc ccacgacctt cgaggagctc
121 tgtgaggaag tgagagacat gtgtcgtctg caccagcagc acccgctcac cctcaagtgg
181 gtggacagcg aaggtgaccc ttgcacggtg tctctccaga tggagctgga agaggtttt
241 cgcctggccc gtcagtgcag ggatgaaggc ctcactatc atgttttccc gagcaccctt
301 gagcagcctg gcctgccatg tccgggagaa gacaaatcta tctaccgccg gggagccaga
361 agatggagga agctgtaccg tgccaacggc cacctcttcc aagccaagcg ctttaacagg
421 agagcgtact gcggtcagtg cagcgagagg atatggggcc tcgcgaggca aggtacagg
481 tgcataaact gcaactgct ggtccataag cgctgccacg gcctcgtccc gctgacctgc
541 aggaagcata tggattctgt catgccttcc caagagcctc cagtagacga caagaacgag
601 gacgccgacc ttccttccga ggagacagat ggaattgctt acatttcttc atcccgaag
661 catgacagca ttaaagacga ctcgaggac ctttaagccag ttatcgatgg gatggatgga
721 atcaaaatct ctcaggggct tgggctgcag gactttgacc taatcagagt catcgggcgc
781 gggacgtacg ccaaggttct cctggtgcgg ttgaagaaga atgaccaaat ttacgccatg
841 aaagtgggta agaaagagct ggtgcatgat gacgaggata ttgactgggt acagacagag
901 aagcacgtgt ttgagcaggc atccagcaac cccttcttgg tcggattaca ctctgcttc
961 cagacgacaa gtcggttgtt cctggtcatt gactacgtca acggcgggga cctgatgttc
1021 cacatgcaga ggcagaggaa gctccctgag gagcacgcca ggttctacgc ggcgagatc
1081 tgcctgccc tcaacttctt gcacgagagg gggatcatct acaggacctt gaagctggac
1141 aacgtcctcc tggatgcgga cggacacatc aagctcacag actacggcat gtgcaaggaa
1201 ggcctgggccc ctggtgacac aacgagcact ttctgcggaa cccgaatta catgcccc
1261 gaaatcctgc ggggagagga gtacgggttc agcgtggact ggtgggctgt gggagtcttc
1321 atgtttgaga tgatggccgg gcgtccccgc ttcgacatca tcaccgacaa cccggacatg
1381 aacacagagg actacctttt ccaagtgate ctggagaagc ccatccggat cccccggttc
1441 ctgtccgtca aagcctccca tgttttaaaa ggatttttaa ataaggacct caaagagagg
1501 ctggctgcc ggccacagac tggattttct gacatcaagt cccacgcgtt cttccgagc
1561 atagactggg acttgctgga gaagaagcag gcgtccctc cattccagcc acagatcaca
1621 gacgactacg gtctggacaa ctttgacaca cagttacca gcgagcccg gcagctgacc
1681 ccagacgatg aggatgccat aaagaggatc gaccagtcag agttcgaagg ctttgagtat
1741 atcaaccat tattgctgtc caccgaggag tcggtgtga
1 tgtcatgcct tcccagagc ctccaggatg gctgtcttc gacctcttc acctccaggc
61 tctagatggc aaagccact tagcaaaagc cacctgctct gtgatgtgg gactggcttc
121 tgctgtggg ttcggaaaag ccatccagcc ctctacagcc tctgtctct ctgcaatgac
181 tgtgccttca cctgggggtt cccagagac tagtgagagt catcgggcgt ggaagctat

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## (2) INFORMATION FOR SEQ ID NO:177:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1649 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:177:

```

1 gccacttctt ctgggcccac gaggcagctg tccatgctc tgctgagcac ggtgggtgcca
61 tgcctctgca actcctctgt ttgctgacc tactgggccc tggcaacagc ttgcagctgt
121 gggacacctg ggcagatgaa gccgagaaag ccttgggtcc cctgcttggc cgggaccgga
181 gacaggccac cgaatatgag tacctagatt atgatttctt gccagaaagc gagcctccag
241 aatgctgag gaacagcact gacaccactc ctctgactgg gcctggaacc cctgagtcta
301 cactgtgga gcctgctgca aggcgttcta ctggcctgga tgcaggaggg gcagtcacag
361 agctgaccac ggagctggcc aacatgggga acctgtccac ggattcagca gctatggaga
421 tacagaccac tcaaccagca gccacggagg cacagaccac tccactggca gccacagagg
481 cacagacaac tcgactgacg gccacggagg cacagaccac tccactggca gccacagagg
541 cacagaccac tccaccagca gccacggaag cacagaccac tcaaccacaa ggctggagg
601 cacagaccac tgcaccagca gccatggagg cacagaccac tgcaccagca gccatggaag
661 cacagaccac tccaccagca gccatggagg cacagaccac tcaaacacaa gccatggagg

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721 cacagaccac tgcaccagaa gccacggagg cacagaccac tcaaccacac gccacggagg  
781 cacagaccac tccactggca gccatggagg cctgtgccac agaaccacag gccacagagg  
841 cctgtgccat ggaacctact accaaaagag gtctgttcat acccttttct gtgtcctctg  
901 ttactcacaa gggcattccc atggcagcca gcaatttgtc cgtcaactac ccagtggggg  
961 cccagacca catctctgtg aagcagtgcc tgtggccat cctaactctg gcgctggtgg  
1021 ccactatctt cttcgtgtgc actgtggtgc tggcggtccg cctctcccgc aagggccaca  
1081 tgtaccccggt gcgtaattac tccccaccg agatggtctg catctcatcc ctgttgctg  
1141 atgggggtga ggggccctct gccacagcca atgggggcct gtccaaggcc aagagcccg  
1201 gcctgacgcc agagcccagg gaggaccgtg aggggatga cctcaccctg cacagcttcc  
1261 tcccttagct cactctgcca tctgttttgg caagacccca cctccacggg ctctcctggg  
1321 ccaccctga gtgcccagac cccaatccac agctctgggc ttctctggag acccctgggg  
1381 atggggatct tcagggaagg aactctggcc acccaaacag gacaagagca gcctggggcc  
1441 aagcagacgg gcaagtggag ccacctctt cctccctccg cggatgaagc ccagccacat  
1501 ttcagccgag gtccaaggca ggaggccatt tacttgagac agattctctc cttttcctg  
1561 tccccatct tctctgggtc cctctaacat ctcccatggc tctccccgct tctctggtc  
1621 actggagtct cctccccatg tacccaagg

## (2) INFORMATION FOR SEQ ID NO:178:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:178:

1 ccaccaatct tgggcaagaa gcgagaccat tctcctttt ctctggtcac tctgtcctt  
61 cagggggctc cctctggccc cgactgtcca ttgtgtctga agtaatgctg tggcctttct  
121 cagtttgggc cccacccaaa accgaagaac ttctcccag aagcttctac ttggttctca  
181 gtgttttcac agttatggga acccaagaac agtgtcagac ctaggaggtg cccactacc  
241 accctgtctt tatcaatggt gtcacaaaag ctgtcacaaa caatggggtg tgggtgtca  
301 catggccctg cctaagtaac cacattctcg ctctcctctt ccacacacag ccattggggg  
361 ttgtcgggat ccgggactgc cgcagggggt gccacagcag tgcctggcag cgtgggctgg  
421 gaccttgctc cttaaagcaga gaagccactt cttctgggccc cacgaggcag ctgtcccatg  
481 ctctgctgag cacggtggta agtctgtggt tgcaaaacca caggaggtgc ctggaggtcc  
541 ccatgggcca agggcctgcc ttatagctgc tggcagggccc gggtaggacc gccaggccct  
601 tcttgagctg cagcacctgg ggagggcaaa ctgaggctcc tccgactcaa gactaaagtc  
661 ttctggagt ctgtggcctt attctgtgac tcttctgaat cct

## (2) INFORMATION FOR SEQ ID NO:179:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3409 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:179:

1 tagaagaagt taaagggccc tcttgatgg ctttattcat gttgatgagt aataataata  
61 actgtactg gctgaggatc ttctccatcc caggcatgtc agggatgcct aagtccccag  
121 tccctgctcc agaccagaca tcttccagct gtggcagtag aggggtggtg tctaggggtc  
181 ttgctaagcc caagggtgaa actgtcttga catccctccg cccattgtct cccctagggt  
241 gccatgcctc tgcaactcct cctgttgctg atcctactgg gccctggcaa cagcttgtag  
301 ctgtgggaca cctgggcaga tgaagccgag aaagccttgg gtcccctgct tgcccgggac  
361 cggagacagg ccaccgaata tgagtaccta gattatgatt tccctgccaga aacggagcct  
421 ccagaaatgc tgaggaacag cactgacacc actcctctga ctgggctggt aaccctgag  
481 tctaccactg tggagcctgc tgcaaggcgt tctactggcc tggatgcagg aggggcagtc  
541 acagagctga ccacggagct ggccaacatg gggaacctgt ccacggattc agcagctatg  
601 gagatacaga cactcaacc agcagccacg gaggcacaga cactcaacc agtgcccacg  
661 gaggcacaga cactccact ggcagccaca gaggcacaga caactcgact gacggccacg  
721 gaggcacaga cactccact ggcagccaca gaggcacaga cactccacc agcagccatg  
781 gaagcacaga cactcaacc cacaggcctg gaggcacaga cactgcacc agcagccatg  
841 gaggcacaga cactgcacc agcagccatg gaagcacaga cactccacc agcagccatg  
901 gaggcacaga cactcaaac cacagccatg gaggcacaga cactgcacc agaagccacg  
961 gaggcacaga cactcaacc cacagccacg gaggcacaga cactccact ggcagccatg  
1021 gaggccctgt ccacagaacc cagtgcaca gaggccctgt ccatggaacc tactacaaa  
1081 agaggtctgt tcataccctt ttctgtgtcc tctgttactc acaaggcat tccctggca  
1141 gccagcaatt tgtccgtcaa ctaccagtg ggggccccag accacatctc tgtgaagcag  
1201 tgcctgctgg ccactcctaat cttggcgctg gtggccacta tcttcttctg gtgactgtg  
1261 gtgtggtggg tccgctctc ccgcaagggc cacatgtacc cgtgctgtaa ttactcccc  
1321 accgagatgg tctgcatctc atccctgttg cctgatgggg gtgaggggccc ctctgccaca  
1381 gccaatgggg gcctgtccaa ggccaagagc ccgggctgga cgccagagcc cagggaaggc  
1441 cgtgaggggg atgacctcac cctgcacagc ttctcctctt agctcactct gccatctgtt  
1501 ttggcaagac cccacctcca cgggctctcc tgggcccacc ctgagtgcac agacccaat  
1561 ccacagctct gggcttctc ggagacccct ggggatgggg atcttcaggg aaggaactct  
1621 ggccacccaa acaggacaag agcagcctgg ggccaagcag acgggtccaa ggcaggaggc  
1681 ctttctctcc tccgcggtg aagcccagcc acatttcagc cgagggtccaa ggcaggaggc

1741 catttacttg agacagattc tctctctttt cctgtccccc atcttctctg ggtccctcta  
1801 acatctccca tggctctccc cgcttctcct ggtcactgga gtctctctcc catgtacca  
1861 aggaagatgg agctccccc tcccacacgc actgcactgc cattgtcttt tgggtgccat  
1921 gggtcaccaaa caggaaagtgg acatttctaag ggaggagtac tgaagagtga cggacttctg  
1981 aggctgtttc ctgctgctcc tctgacttgg ggcagcttgg gtcttcttgg gcacctctct  
2041 gggaaaaccc agggtaggt tcagcctgtg agggctggga tgggtttcgt gggcccaag  
2101 ggcagacctt tctttgggac tgtgtggacc aaggagcttc catctagtga caagtgacc  
2161 ccagctatcg cctcttgctt tcccctgtgg ccactttcca ggggtggactc tgtctgttc  
2221 actgcagtat cccaactgca ggtccagtgc aggcaataaa tatgtgatgg acaaacgat  
2281 agcggaatcc ttcaaggttt caaggctgct tccctcaggc agccttcccga gaattctcca  
2341 tccctcagtg caggatgggg gctggtcctc agctgtctgc cctcagcccc tggccccc  
2401 ggaagcctct ttcattgggt gttaggttga cttcagtttt gcctcttggg caacaggggg  
2461 tcttgtacat ccttgggtga ccaggaaaag ttcaggctat ggggggcccag agggagggt  
2521 gccccttccc caccagtac cactttattc cacttcctcc attaccaggt tttggccac  
2581 agagtgttgg ccccccaaa cctcggacca atatccctct aaacatcaat ctatcctct  
2641 gttaaagaaa aaaaaaaatg ggactgggag cagtggctca tgctgtaat cccagcactt  
2701 tgggaggccg aggcaggtac atcacctgag gtcaggagt caagactagc ctggccaaca  
2761 tagtgaaacc ctgtctctac taaaaataga aagattagtc aggtgtgtg gcacatgcct  
2821 gtagtccag ctactgggga ggctgaggca ggagaattgc ttgaaccgga gaagcggagg  
2881 gaggttgag tgagctgaga tcacgctact gcactccagc ctgggtgaga gagtaagact  
2941 ccgtctcaaa aaaaaaaatg aagattcaat gacccttgtt aaagcatggt aaggaagact  
3001 ttgttcaagg ggagtgggac tctctcaatc actgcaggga ctgcagctat gggattttgc  
3061 agtgggggca tttgggctca actatgagta cagcaggggc aagtgggagc tgatagccag  
3121 ggaacagggt tggatatctg cagctggaaa attaccaaga ggaacatca ggggaagggg  
3181 aattctggct aaactgactg ctggggatgg gttctcggtc attttctaga ctgacctaac  
3241 aggattcata ctggaggcag gccagggtgc tcagacatca ccgggggat ggtggcagat  
3301 gaggaacgtg atcagatata ggaggtgatc agatatggga ggtgatcaga tatggagtgg  
3361 tggggggagg gttgttgcta agctgactta gcagagttct tgttagaac

## (2) INFORMATION FOR SEQ ID NO:180:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3409 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:180:

1 tagaagaagt taaaggccc tctggatgg cttattcat gttgatgagt aataataata  
61 actgctactg gctgaggatc ttctccatcc caggcatgtc agggatgcct aagtcgccag  
121 tccctgctcc agaccagaca tcttccagct gtggcagtag aggggtgtgg tctagggtgc  
181 ttgctaagcc caagggtgaa actgtcttga catccctccg cccattgtct cctcctaggt  
241 gccatgcctc tgcaactcct cctgttctgag atcctactgg gccctggcaa cagcttgcag  
301 ctgtgggaca cctgggcaga tgaagccgtg aaagccttgg gtccctctgt tcccgggac  
361 cggagacagg ccaccgaata tgagtaccta gattatgatt tccctgccaga aacggagcct  
421 ccagaaatgc tgaggaaacag cactgacacc actcctctga ctgggcctgg aaccctgag  
481 tctaccactg tggagcctgc tgcaaggcgt tctactggcc tggatgcagg aggggcagtc  
541 acagagctga ccacggagct ggccaacatg gggaacctgt ccacggattc agcagctatg  
601 gagatacaga ccaactcaacc agcagccacg gaggcacaga ccaactcaacc agtgcaccag  
661 gaggcacaga ccaactccact ggcagccaca gaggcacaga caactcgact gacggccacg  
721 gaggcacaga ccaactccact ggcagccaca gaggcacaga ccaactccact agcagccacg  
781 gaagcacaga ccaactcaacc cacaggcctg gaggcacaga ccaactgcacc agcagccatg  
841 gaggcacaga ccaactgcacc agcagccatg gaagcacaga ccaactccacc agcagccatg  
901 gaggcacaga ccaactcaaac cacagccatg gaggcacaga ccaactgcacc agaagccacg  
961 gaggcacaga ccaactcaacc cacagccacg gaggcacaga ccaactccact ggcagccatg  
1021 gaggccctgt ccacagaacc cagtggcaca gaggccctgt ccatggaacc tactacaaa  
1081 agaggctctg tcataccctt ttctgtgtcc tctgttactc acaagggtcat tcccatggca  
1141 gccagcaatt tgcctgctca ctaccagtg ggggccccag accacatctc tgtgaagcag  
1201 tgctgtctgg ccattccta ctgtggcgtg gtggccacta tcttctctgt gtgactctg  
1261 gtgctggcgg tccgctctct ccgcaagggc cacatgtacc ccgtgcgtaa ttactcccc  
1321 accgagatgg tctgcatctc atccctgttg cctgatgggg gtgagggggc ctctgccaca  
1381 gccaatgggg gctgttccaa ggccaagagc ccgggcctga cggcagagcc caggaggagc  
1441 cgtgaggggg atgacctcac cctgcacagc ttctccctt agctcactct gccatctgtt  
1501 ttggcaagac cccacctcca cgggctctcc tgggccacce ctgagtgcce agaccccaat  
1561 ccacagctct gggcttccct ggagaccctt ggggatgggg atcttcaggg aaggaactct  
1621 ggccacccaa acaggacaag agcagcctgg ggccaagcag acgggcaagt ggagccacct  
1681 ctttccctcc tccgcggtat aagcccagcc acatttcagc cgaggtccaa ggcaggaggc  
1741 catttacttg agacagattc tctctttt cctgtccccc atcttctctg ggtccctcta  
1801 acatctccca tggctctccc cgcttctcct ggtcactgga gtctctctcc catgtacca  
1861 aggaagatgg agctccccc tcccacacgc actgcactgc cattgtcttt tgggtgccat  
1921 gggtcaccaaa caggaaagtgg acatttctaag ggaggagtac tgaagagtga cggacttctg  
1981 aggctgtttc ctgctgctcc tctgacttgg ggcagcttgg gtcttcttgg gcacctctct  
2041 gggaaaaccc agggtaggt tcagcctgtg agggctggga tgggtttcgt gggcccaag

2101 ggcagacctt tctttgggac tgtgtggacc aaggagcttc catctagtga caagtgaccc  
 2161 ccagctatcg cctcttgcc tccctgtgg ccactttcca ggggtggactc tgtcttgctc  
 2221 actgcagtat cccaactgca ggtccagtgc aggaataaaa tatgtgatgg acaaaacgat  
 2281 agcggaaatcc ttcaaggttt caaggctgtc tccctcaggc agccttcccc gaattctcca  
 2341 tccctcagtg caggatgggg gctgtgcttc agctgtctgc cctcagcccc tggcccccca  
 2401 ggaagcctct ttcattgggt gttaggttga cttcagtttt gcctcttggg caacaggggg  
 2461 tcttgtacat ccttgggtga ccaggaaaag ttcaggctat gggggggccaa agggaggggt  
 2521 gccccttccc caccagtgc cactttattc cacttcctcc attaccagt tttggccac  
 2581 agagtttggt ccccccaaaa cctcggacca atatccctct aaacatcaat ctatcctct  
 2641 gttaaagaaa aaaaaaatg ggactgggag cagtggctca tgcctgtaat ccagcactt  
 2701 tgggaggccg aggcaggtac atcacctgag gtcaggagtt caagatagc ctggccaaca  
 2761 tagtgaatcc ctgtctctac taaaaataca aagattagtc aggtgtggtg gcacatgcct  
 2821 gtagtcccag ctactgggga ggctgaggca ggagaattgc ttgaacccgg gaagcggagg  
 2881 gaggttgtag tgagctgaga tcacgtact gcactccagc ctgggtgaca gagtaagact  
 2941 ccgtctcaaa aaaaaaaaaa aagattcaat gacccttgtt aaagcatggt aaggaagact  
 3001 ttgttcaagg ggagtgggac tctctcaatc actgcaggga ctgcagctat gggattttgc  
 3061 agtgggggca tttgggtcca actatgagta cagcaggggc aagtgggagc tgatagccag  
 3121 ggaacagggt tggatatctg cagctggaaa attaccaaga ggaaacatca ggggaagggg  
 3181 aattctggct aaactgactg ctggggatgg gttctcggtc attttctaca ctgacctaac  
 3241 aggattcata ctggaggcag gccagggtgc tcagacatca ccggggggat ggtggcagat  
 3301 gaggaacgtg atcagatata ggaggtgatc agatatggga ggtgatcaga tatggagtgg  
 3361 tggggggagg gttgttgcta agctgactta gcagagttct tgtagaac

## (2) INFORMATION FOR SEQ ID NO:181:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9170 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:181:

1 gccacttctt ctggggccac gaggcagctg tccatgctc tgcagagcac ggtgggtgcca  
 61 tgcctctgca actcctcctg ttgtgatcc tactgggcc ttgcaacagc ttgcagctgt  
 121 gggacacctg ggcagatgaa gccagaaaag ccttgggtcc cctgcttgc cgggaccgga  
 181 gacaggccac cgaatatgag tacctagatt atgatttcc gccagaaacg gagcctccag  
 241 aaatgtgtag gaacagcact gacaccactc ctctgactgg gcctggaacc cctgagtcta  
 301 ccactgtgga gcctgtgca aggcgttcta ctggcctgga tgcaggagg gcagtcacag  
 361 agctgaccac ggagctggcc aacatgggga acctgtccac ggattcagca gctatggaga  
 421 tacagaccac tcaaccagca gccacggagg cacagaccac tccactggca gccacagagg  
 481 cacagacaac tcgactgacg gccacggagg cacagaccac tccactggca gccacagagg  
 541 cacagaccac tccaccagca gccacggagg cacagaccac tcaaccaca ggccctggagg  
 601 cacagaccac tgcaccagca gccatggagg cacagaccac tgcaccagca gccatggagg  
 661 cacagaccac tccaccagca gccatggagg cacagaccac tcaaccaca gccatggagg  
 721 cacagaccac tgcaccagaa gccacggagg cacagaccac tcaaccaca gccacggagg  
 781 cacagaccac tccactggca gccatggagg ccctgtccac agaaccaggt gccacagagg  
 841 ccctgtccat ggaacctact accaaaagag gtctgttcat accctttct gtgtcctctg  
 901 ttactcaca gggcattccc atggcagcca gcaatttgtc .cgtcaactac ccagtggggg  
 961 cccagacca catctctgtg aagcagtgc tgcaggccat cctaattctg gcgtgggtg  
 1021 ccactatctt ctctgtgtgc actgtgtgtc tggcgggtcc cctctcccgc aagggccaca  
 1081 tgtacccctg gcgtaattac tccccaccg agatgggtct catctcatcc ctgttgctg  
 1141 atgggggtga ggggcccctt gccacagcca atgggggctt gtccaagccc aagagcccgg  
 1201 gcctgacgcc agagcccagg gaggaccgtg agggggatga cctcaccctg cacagcttcc  
 1261 tcccttagct cactctgcca tctgttttgg caagaccca cctccacggg ctctcctggg  
 1321 ccaccctga gtgcccagac cccaatccac agctctgggc ttctcggag acccctgggg  
 1381 atggggatct tcagggaagg aactctggcc acccaaacag gacaagagca gcctggggcc  
 1441 aagcagacgg gcaagtggag ccacctctt cctccctccg cggatgaag ccagccacat  
 1501 ttcagccgag gtccaaggca ggaggccatt tacttgagac agattctctc cttttctctg  
 1561 tcccccatct tctctgggtc cctctaaccat ctcccatggc tctccccgt tctcctggtc  
 1621 actggagtct cctccccatg tacccaagg  
 1 ccaccaatct tgggaagaa gcgagaccat tctcctttt ctctgggtcac tctgtcctt  
 61 cagggggctc cctctggccc cgactgtcca ttgtgtgta agtaatgctg tggcctttct  
 121 cagtttgggc cccacccaaa accgaagaac ttctcccag aagcttctac ttggttctca  
 181 gtgttttctc agttatggga acccaagaac agtgtcagac ctaggagggtg cccactacc  
 241 accctgtctt tatcaatgtt gtcaccaaag ctgtcacaac caatgggggtg tgggtgttca  
 301 catggccctg cctaagtaac cacattctcg ctctcctctt ccacacacag ccattggggg  
 361 ttgtctggat cggggactgc cgcagggggt gccacagcag tgcctggcag cgtgggctgg  
 421 gaccttgcac ctaaaagcaga gaagccactt ctctggggcc cacaggagcag ctgtccctatg  
 481 ctctgtctgag cacgggtgga agtgctggct tgcaaaacca cagggagtggt ctggaggtcc  
 541 ccatgggcca agggcctgcc ttatagctgc tggcaggccc gggtaggacc gccaggccct  
 601 tcttgagctg cagcacctgg ggagggcaaa ctgaggctcc tccgactcaa gactaaagtc  
 661 ttcttgaggt ctgtggcctt attctgtgac tcttctgaat cct  
 1 tagaagaagt taaagggccc tctggatgg ctttattcat gttgatgagt aataataata  
 61 actgctactg gctgaggatc ttctccatcc caggcatgtc agggatgctt aagtcctccag  
 121 tccctgctcc agaccagaca tcttcagct gtggcagtag aggtgggtg tctagggtgc

181 ttgctaagcc caaggggtgaa actgtcttga catccctccg cccattgtct cctcctaggt  
241 gccatgcctc tgcaactcct cctgttctg atcctactgg gccctggcaa cagcttgacg  
301 ctgtgggaca cctgggcaga tgaagccgag aaagccttgg gtcccttgc tgcgcgggac  
361 cggagacagg ccaccgaata tgagtaccta gattatgatt tcctgccaga aacggagcct  
421 ccagaaatgc tgaggaaacag cactgacacc actcctctga ctgggcctgg aacccttgag  
481 tctaccactg tggagcctgc tgcaaggcgt tctactggcc tggatgcagg aggggcagtc  
541 acagagctga ccacggagct ggccaacatg gggaaacctgt ccacggattc agcagctatg  
601 gagatacaga ccactcaacc agcagccacg gaggcacaga ccactcaacc agtgcccacg  
661 gaggcacaga ccactccact ggcagccaca gaggcacaga caactcgact gacggccacg  
721 gaggcacaga ccactccact ggcagccaca gaggcacaga ccactccacc agcagccacg  
781 gaagcacaga ccactcaacc cacaggcctg gaggcacaga ccactgcacc agcagccatg  
841 gaggcacaga ccactgcacc agcagccatg gaagcacaga ccactccacc agcagccatg  
901 gaggcacaga ccactcaaac cacagccatg gaggcacaga ccactgcacc agaagccacg  
961 gaggcacaga ccactcaacc cacagccacg gaggcacaga ccactccact ggcagccatg  
1021 gaggcctgtt ccacagaacc cagtgccaca gaggcctgtt ccatggaacc tactacaaa  
1081 agaggtctgt tcataccctt ttctgtgtcc tctgttactc acaagggcat tcccatggca  
1141 gccagcaatt tgtccgtcaa ctaccacgtg ggggccccag accacatctc tgtgaagcag  
1201 tgccctgctg ccactcctaat cttggcgctg gtggccacta tcttcttctg gtgactgtg  
1261 gtgctggcgg tccgcctctc ccgcaagggc cacatgtacc ccgtgcgtaa ttactcccc  
1321 accgagatgg tctgcatctc atccctgttg cctgatgggg gtgagggggt ctctgccaca  
1381 gccaatgggg gcctgtccaa ggccaagagc ccgggcctga cgccagagcc caggaggagc  
1441 cgtgaggggg atgacctcac cctgcacagc ttctccctt agctcactct gccatctgtt  
1501 ttggcaagac ccacctcca cgggctctcc tgggccacc ctgagtggcc agaccccaat  
1561 ccacagctct gggcttctc ggagaccctt ggggatgggg atcttcagg aaggaactct  
1621 ggccacccaa acaggacaag agcagcctgg ggccaagcag acgggcaagt ggcagccct  
1681 ctttctctcc tccgcggatg aagcccagcc acatttcagc cgaggtccaa ggaggaggc  
1741 catttacttg agacagattc tctcctttt cctgtccccc atcttctctg ggtccctcta  
1801 acatctccca tggctctccc cgttctctc ggtcactgga gtctctctcc catgtacca  
1861 aggaagatgg agtccccca tcccacagc actgcactgc cattgtctt tgggtgccat  
1921 ggtcaccaaa caggaagtgg acattctaag ggaggagtac tgaagagtga cggactctg  
1981 aggtgtttc ctgctgtctc tctgacttgg ggcagcttgg gtcttcttgg gcacctctc  
2041 gggaaaaccc aggggtgaggt tcagcctgtg agggctggga tgggttctgt gggcccaag  
2101 ggcagacctt tcttggggac tgtgtggacc aaggagcttc catctagtga caagtgacc  
2161 ccagctatcg cctcttgctt tccctgtgg ccactttcca ggggtggactc tgtcttgttc  
2221 actgcagtat cccaactgca ggtccagtgc aggcaataaa tatgtgatgg acaaaacgat  
2281 agcggaatcc ttcaaggtt caaggctgtc tccttcaggc agccttccc gaatttcca  
2341 tccctcagtg caggatgggg gctggtctc agctgtctgc cctcagcccc tggccccca  
2401 ggaagcctct ttcatgggct gttaggttga cttcagttt gcctcttgg caacaggggg  
2461 tctgtatcat ccttgggtga ccaggaaaag ttcaggctat ggggggcca agggagggt  
2521 gccccttccc caccagtgc cactttatc cacttctcc attaccagt tttggccac  
2581 agagtttggg ccccccaaa cctcggacca atatccctc aaacatcaat ctatctctc  
2641 gttaaagaaa aaaaaaatg ggactgggag cagtggctca tgcctgtaat cccagacctt  
2701 tgggagggcg aggcaggtac atcacctgag gtcaggagt caagactagc ctggccaaca  
2761 tagtgaacc ctgtctctac taaaaataca aagattagtc aggtgtggtt gcacatgct  
2821 gtagtcccag ctactgggga ggctgaggca ggagaattgc ttgaaccgg gaagcggagg  
2881 gaggttgacg tgagctgaga tcacgtact gcactccagc ctgggtgaca gagtaagact  
2941 ccgtctcaaa aaaaaaaaaa aagattcaat gacccttgtt aaagcatggt aaggaagact  
3001 ttgttcaagg ggagtgggac tctctcaatc actgcaggga ctgcagctat gggattttgc  
3061 agtgggggca tttgggctca actatgagta cagcaggggc aagtgggagc tgatggcag  
3121 ggaacagggt tggatatctg cagctggaaa attaccaaga ggaacatca ggggaagggg  
3181 aattctggct aaactgactg ctggggatgg gttctcggtc attttctaca ctgacctaac  
3241 aggattcata ctggaggcag gccaggggtg tcagacatca ccggggggat ggtggcagat  
3301 gaggaacgtg atcagatata ggaggtgat agatatggga ggtgatgaga tatggagtgg  
3361 tggggggagg gttgttgcta agctgactta gcagagttct tgttagaac  
1 tagaagaagt taaagggccc tcttggatgg ctttattcat gttgatgagt aataataata  
61 actgctactg gctgaggatc ttctccatcc caggcatgtc agggatgcct aagtccccag  
121 tccctgctcc agaccagaca tcttcagct gtggcagtag aggggtgggt tctagggtgc  
181 ttgctaagcc caaggggtgaa actgtcttga catccctccg cccattgtct cctcctaggt  
241 gccatgcctc tgcaactcct cctgttctg atcctactgg gccctggcaa cagcttgacg  
301 ctgtgggaca cctgggcaga tgaagccgag aaagccttgg gtcccttgc tgcgcgggac  
361 cggagacagg ccaccgaata tgagtaccta gattatgatt tcctgccaga aacggagcct  
421 ccagaaatgc tgaggaaacag cactgacacc actcctctga ctgggcctgg aacccttgag  
481 tctaccactg tggagcctgc tgcaaggcgt tctactggcc tggatgcagg aggggcagtc  
541 acagagctga ccacggagct ggccaacatg gggaaacctgt ccacggattc agcagctatg  
601 gagatacaga ccactcaacc agcagccacg gaggcacaga ccactcaacc agtgcccacg  
661 gaggcacaga ccactccact ggcagccaca gaggcacaga caactcgact gacggccacg  
721 gaggcacaga ccactccact ggcagccaca gaggcacaga ccactccacc agcagccacg  
781 gaagcacaga ccactcaacc cacaggcctg gaggcacaga ccactgcacc agcagccatg  
841 gaggcacaga ccactgcacc agcagccatg gaagcacaga ccactccacc agcagccatg  
901 gaggcacaga ccactcaaac cacagccatg gaggcacaga ccactgcacc agaagccacg  
961 gaggcacaga ccactcaacc cacagccacg gaggcacaga ccactccact ggcagccatg  
1021 gaggcctgtt ccacagaacc cagtgccaca gaggcctgtt ccatggaacc tactacaaa  
1081 agaggtctgt tcataccctt ttctgtgtcc tctgttactc acaagggcat tcccatggca  
1141 gccagcaatt tgtccgtcaa ctaccacgtg ggggccccag accacatctc tgtgaagcag  
1201 tgccctgctg ccactcctaat cttggcgctg gtggccacta tcttcttctg gtgactgtg

1261 gtgctggcgg tccgcctctc ccgcaagggc cacatgtacc ccgtgcgtaa ttactcccc  
1321 accgagatgg tctgcatctc atccctgttg cctgatgggg gtgagggggc ctctgccaca  
1381 gccaatgggg gcctgtccaa ggccaagagc ccgggcctga cgccagagcc caggaggagc  
1441 cgtgaggggg atgacctcac cctgcacagc ttcctccctt agctcactct gccatctgtt  
1501 ttggcaagac cccacctcca cgggctctcc tgggccacc ctagtgccc agaccccaat  
1561 ccacagctct gggcttctc ggagaccctt ggggatgggg atcttcagg aaggaactct  
1621 ggccaccaaa caggacaag agcagcctgg ggccaagcag acgggcaagt ggaccacct  
1681 ctttctctcc tccgcggatg aagcccagcc acatttcagc cgaggccaa ggcaggaggc  
1741 catttacttg agacagattc tctcttttt cctgtcccc atcttctctg ggtccctcta  
1801 acatctccca tggtctctcc cgcttctctt ggtcactgga gtctctctcc catgtacca  
1861 aggaagatgg agtccccca tcccacacgc actgactgc cattgtcttt tgggtgccat  
1921 ggtcaccaaa caggaaagtg acattctaag ggaggagtac tgaagagtga cggactctctg  
1981 aggtgtttt ctgctgtctc tctgacttgg ggcagcttgg gtcttcttgg gcacctctct  
2041 gggaaaacc aggttgaggt tcagcctgtg agggctggga tgggtttcgt gggcccaaa  
2101 ggcagacctt tctttgggac tgtgtggacc aaggagcttc catctagtga caagtgacc  
2161 ccagctatcg cctcttgctt tccccgttgg ccactttcca ggggtggactc tgtcttggc  
2221 actgcagtat cccaactgca ggtccagtgc aggaataaa tatgtgatgg acaaacgat  
2281 agcggaatcc ttcaagggtt caaggctgtc tcttcaggc agccttccc gaattctcca  
2341 tccctcagtg caggatgggg gctggctctc agctgtctgc cctcagcccc tggccccc  
2401 ggaagcctct ttcattgggt gttaggttga cttcagtttt gcctcttgg caacaggggg  
2461 tctgtacat ccttgggtga ccaggaaaag ttcaggctat gggggcccaa agggagggt  
2521 gcccttccc caccagtgc cactttatt cacttctcc attaccagt tttggccac  
2581 agagtttgg ccccccaaa cctcgacca atatccctct aaacatcaat ctatcctct  
2641 gtaaaagaaa aaaaaaatg ggactgggag cagtggctca tgccctgtaat cccagcactt  
2701 tgggagggcg aggcaggtag atcacctgag gtcaggagtt caagactagc ctggccaaca  
2761 tagtgaaacc ctgtctctac taaaaatata aagattagtc aggtgtggg gcacatgct  
2821 gtatccccc ctactggga ggcagggca ggagaattgc ttgaacccg gaagcggagg  
2881 gaggttgtag tgagctgaga tcacgctact gcactccagc ctgggtgaca gagtaagact  
2941 ccgtctcaaa aaaaaaaaaa aagattcaat gacccttgtt aaagcatggt aaggaaact  
3001 ttgttcaagg ggagtgggac tctctcaatc actgcaggga ctgcagctat gggattttgc  
3061 agtgggggca tttgggctca actatgagta cagcaggggc aagtgggagc tgatagccag  
3121 ggaacagggt tggatatctg cagctggaaa attaccaaga ggaacatca ggggaagggg  
3181 aattctggct aaactgactg ctggggatgg gttctcggc attttctaca ctgacctaac  
3241 aggattcata ctggaggcag gccagggtgc tcagacatca ccggggggat ggtggcagat  
3301 gaggaacgtg atcagatata ggaggtgatc agatatggga ggtgatcaga tatggagtgg  
3361 tggggggagg gttgttgcta agctgactta gcagagtct tgttagaac

## (2) INFORMATION FOR SEQ ID NO:182:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1830 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:182:

1 cctgcctgca cggcacagga gagcaactt ctacagacag accaaggctt ccatttgctg  
61 ctgacacatg gaactgaggt gaaattgtgc tccatgattt tacagatttc ataagcttta  
121 agagacggga ctcaggtcat caaaatgaaa gccctcatct ttgcagctgc tggcctcctg  
181 cttctgttgc ccactttttg tcagagtggc atggaaaatg atacaaacaa cttggcaaa  
241 ccaaccttac ccattaagac ctttcgtgga gctcccccaa attcttttga agagttcccc  
301 ttttctgctt tggaaaggctg gacaggagcc acgattactg taaaaattaa gtgcctgaa  
361 gaaagtgcct cacatctcca tgtgaaaaat gctaccatgg ggtaccctga cagctcctta  
421 agtactaaac tgatacctgc catctacctc ctgggtgttt tagttggtgt cccggccaat  
481 gctgtgaccc tgtggatgct tttcttcagg accagatcca tctgtaccac tgtattctac  
541 accaacctgg ccattgcaga ttttcttttt tgtgttacct tgccctttaa gatagcttat  
601 catctcaatg ggaacaactg ggtatttggg gaggtcctgt gccgggccac cacagtcac  
661 tcttatggca acatgtactg ctccattctg ctcccttgcct gcatcagcat caaccgctac  
721 ctggccatcg tccatccttt caccatccgg ggccctgcca agcacacctc tgccctggta  
781 acatgtggac tgggtgtggc aacagttttc ttatatatgc tgccattttt catactgaag  
841 caggaatatt atcttgttca gccagacatc accacctgcc atgatgttca caacacttgc  
901 gagtccctat ctcccttcca actctattac ttcattctct tggcattctt tggattctta  
961 attccatttg tgcttatcat ctactgctat gcagccatca tccggacact taatgcatac  
1021 gatcatagat ggttgtggta tgttaaggcg agtctctca tcttgtgat tttaccatt  
1081 tgctttgtc caagcaatat tattcttatt attcaccatg ctaactacta ctacaacaac  
1141 actgatggct tatattttat atatctcata gctttgtgcc tgggtagtct taatagtgtc  
1201 ttgatccat tcttttattt tctcatgtca aaaaccagaa atcactccac tgcttacctt  
1261 acaaaaatagt gaaatgatct tagaagacaa ggacagccat cacagagaac gtcgtttttc  
1321 aagaacaaca taagcatagt gcaaggagct ccatttccga gctcctaaga aatatgcttc  
1381 aaaggtcaaa cattacaaaa gcattagtag tttgtttgtt tgtttttgag actgagtctc  
1441 actttatcac ccagactggc gtgcagtggc actatcttgg ctcatgcaa cctctgcctc  
1501 ccaggtcagc ctcccaagta gctgggatta caccacctat cccagctact aaaaatactt  
1561 gtatttttag tagagcggg gtttcacctt gttgaccagg ctggtcttga actcctgacc  
1621 tcaagtgtac ttccggcctc agcctcccaa agtgctggat tacaggcgtg agccactgag  
1681 ccagccagca ttagtaattt ttaaaaacac tttatcagta ttttaaaaat gttaatgcag  
1741 gagaaaagat atcacaactc tatggaaaat gacatttcca tttgccttat tgctacttca  
1801 agctctttaa atcaccatct tccctatttc



## (2) INFORMATION FOR SEQ ID NO:183:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1534 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:183:

1 tcattgtgggg gcgactgctc ctgtggcccc tgggtgtggg gttcagcctg tctggcggca  
61 ccagagcccc cagcgtctac gacgagagcg ggagcaccgg aggtgggtgat gacagcacgc  
121 cctcaatcct gcctgcccc cgcggctacc caggccaagt ctgtgccaat gacagtgaca  
181 ccctggagct cccggacagc tcacgggcac tgcttctggg ctgggtgccc accaggctgg  
241 tgcccgccct ctatgggctg gtcctgggtg tggggctgcc ggccaatggg ctggcgctgt  
301 ggggtgctggc cagcgaggca cctcggctgc cctccaccat gctgctgatg aacctcgcga  
361 ctgctgacct cctgctggcc ctggcgctgc ccccgcggtat cgcctaccac ctgctgtggc  
421 agcgtgtggc cttcggggag gccgcctgcc gcctggccac ggccgcactc tatggtcaca  
481 tgtatggctc agtgtgtctg ctggccgccc tcagcctgga tcgctacctg gccctgggtg  
541 acccgctgcg ggcccgcgcc ctgctgtggc ggccgctggc ccttggaact tgcattggctg  
601 ctgtgctcat ggccggccgc ctggcactgc cctgacact gcagcggcag accttccggc  
661 tggcgcgctc cgatcgctg ctctgccatg acgcgtgcc cctggacgca caggcctccc  
721 actggcaacc ggccttcacc tgccctggcg tgttgggtg tttctgccc ctgctggcca  
781 tgctgtgtg ctacggggcc accctgcaca cgctggcggc cagcggccgg cgctacggcc  
841 acgcgctgag gctgaccgca gtgggtgtgg cctccgcgt ggccctcttc gtgcccagca  
901 acctgctgct gctgctgcat tactcggacc cgagcccccag cgcctggggc aacctctatg  
961 gtgcctacgt gcccagcctg gcgctgagca cctcaacag ctgctggat ccttctatct  
1021 actactacgt gtcggccgag ttcagggaca aggtgcccgc agggctcttc caacggctcg  
1081 cgggggacac cgtggcctcc aaggcctctg cggaaggggg cagccggggc atgggcaccc  
1141 actcctcttt gctccagtga cacaagtgg ggaaggctgt actgggtcga acagggctcc  
1201 tccccccact tcacgtcctt cctgggacct cagaatgtga ccttatttgg aaatagggtt  
1261 gttacaactg tcaatagcag aggtcacttt ggagaagggt gggccttaca tccagtgtgg  
1321 gtgtgtctc cataagataa ggagaggcca ggccctgttg ctcacgcctg taatcccagc  
1381 actttaagag gccaaaggcg atggtactac tgagcccagg agttcaacac cagcctgagc  
1441 aacatggtaa aaccccatct ctacaaaaaa tacaaaaatt agctgggctt ggtggctggc  
1501 gcctgtaatc ccagctactc angagactga ggca

## (2) INFORMATION FOR SEQ ID NO:184:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3472 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:184:

cgcacccggg  
301 cccgcaggcc agaataaaaa gcaacaaatg ccaccttaga tccccggtca tttcttctca  
361 ggaaccccaa tgataaatat gaaccatttt gggaggatga ggagaaaaat gaaagtgggt  
421 taactgaata cagattagtc tccatcaata aaagcagtc tcttcaaaaa caacttctctg  
481 cattcatctc agaagatgcc tccggatatt tgaccagctc ctggctgaca ctctttgtcc  
541 catctgtgta caccggagtg tttgtagtca gcctccact aaacatcatg gccatcggtg  
601 tgttcatcct gaaaatgaag gtcaagaagc cggcggtgtg gtacatgctg cacttgccca  
661 cggcagatgt gctgtttgtg tctgtgtctc cctttaagat cagctattac ttttccggca  
721 gtgattggca gtttgggtct gaattgtgtc gcttcgtcac tgcagcattt tactgtaaca  
781 tgtacgcctc tatcttgtct atgacagtca taagcattga ccggtttctg gctgtgggtg  
841 atcccatgca gtccctctcc tggcgctact tgggaagggc ttccttcaact tgcctggcca  
901 tctgggcttt ggccatcgca ggggtagtgc ctctcgtcct caaggagcaa accatccagg  
961 tggccgggct caacatcact acctgtcatg atgtgtcaa tgaaaccctg ctcgaaggct  
1021 actatgccta ctacttctca gccttctctg ctgtcttctt ttttgtgccg ctgatcattt  
1081 ccacggctctg ttatgtgtct atcattcgat gtcttagctc ttcgcagatt gccaacccga  
1141 gcaagaagtc cgggctttg tctctgtcag ctgctgtttt ctgcatcttc atcatttgc  
1201 tcggaccac aaacgtctc ctgattgcgc attactcatt ccttctcac acttccacca  
1261 cagaggctgc ctactttgcc tacctctctt gtgtctgtgt cagcagcata agctcgtgca  
1321 tcgacccct aatttactat tacgttctct ctgagtgcca gaggtacgtc tacagtatct  
1381 tatgtgcaa agaaagtcc gatcccagca gttataacag cagtgggcag ttgatggcaa  
1441 gtaaaatgga tacgtgtct agtaacctga ataacagcat atacaaaaag ctgttaactt  
1501 aggaaaaggg actgtgtgga ggttaaaaaa aaaagttaa aacgtgagga  
1561 ttctattagt cccaccccaa actttattga ttcacctctt aaacaacag atgtacgact  
1621 tgcatacctg ctttttatgg gagctgtcaa gcatgtattt ttgtcaatta ccagaaagat  
1681 aacaggacga gatgacgggtg ttattccaag ggaatattgc caatgctaca gtaataaatg  
1741 aatgtcactt ctggatatag ctagggtgaca tatacatact tacatgtgtg tatatgtaga  
1801 tgtatgcaca cacatatatt atttgcaagt cagtatagaa taggcacttt aaaaactctt  
1861 tccccgcac cccagcaatt atgaaaataa tctctgatcc cctgatttaa ratgcaaagt  
1921 ctagggttgg agagtttagc cctgaacatt tcatggtgtt catcaacagt gagagactcc  
1981 atagtttggg ctgtaccac ttttgcaaat aagtgtattt tgaaattgtt tgacggcaag

2041 gtttaagtta ttaagaggtta agacttagta ctatctgtgc gtagaagttc tagtggtttc  
2101 aatttttaaac atatccaagt ttgaattcct aaaattatgg aaacagatga aaagcctctg  
2161 ttttgatatg ggtagatatt ttacatttt acacactgta cacataagcc aaaactgagc  
2221 ataagtcctc tagtgaatgt aggtctggtt tcagagtagg ctattcctga gagctgcatg  
2281 tgtccgcccc cgatggagga ctccaggcag cagacacatg ccaggggccat gtcagacaca  
2341 gattggccag aaaccttctc gctgagcctc acagcagtga gactggggcc actacatttg  
2401 ctccatcctc ctgggattgg ctgtgaaactg atcatgttta tgagaaaactg gcaaagcaga  
2461 atgtgatatc ctaggaggtta atgaccatga aagacttctc taccatctct aaaaaaacg  
2521 aaagaaggca tggacttctg gatgccatc cactgggtgt aaacacatct agtagttgtt  
2581 ctgaaatgtc agttctgata tgggaagcacc cattatgcgc tgtggccact ccaataggtg  
2641 ctgagtgtac agagtggaaat aagacagaga cctgccctca agagcaaagt agatcatgca  
2701 tagagtgtga tgtatgtgta ataaatatgt ttcacacaaa caaggcctgt cagctaaaga  
2761 agtttgaaca tttgggttac tatttcttgt ggttataact taatgaaaac aatgcagtac  
2821 aggacatata ttttttaaaa taagtctgat ttaattgggc actatttatt tacaatgtt  
2881 ttgctcaata gattgctcaa atcaggtttt cttttaagaa tcaatcatgt cagtctgctt  
2941 agaaaataaca gaagaaaata gaattgacat tgaaatctag gaaaattatt ctataattc  
3001 catttactta agacttaagt agactttaaa agcatttttt aacctcctaa gtatcaagta  
3061 tagaaaatct tcatggaatt cacaaagtaa tttggaaatt aggttgaaac atatctctta  
3121 tcttacgaaa aaatggtagc atttttaaca aaatagaaag ttgcaaggca aatgtttatt  
3181 taaaagagca ggccaggcgc ggtggctcac gcctgtaatc ccagcacttt gggaggctga  
3241 ggcgggtgga tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaccctg  
3301 ctctactaaa aatgcaaaaa aaattagccg ggcgtggtgg caggcacctg tagtcccagc  
3361 tactcgggag gctgaggcag gagactggcg tgaacccagg aggcggacct tgtagttagc  
3421 cgagatcgcg ccactgtgct ccagcctggg caacagagca agactccatc tc

## (2) INFORMATION FOR SEQ ID NO:185:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6836 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:185:

1 cctgcctgca cggcacagga gagcaaactt ctacagacag accaaggctt ccatttgctg  
61 ctgacacatg gaactgaggt gaaattgtgc tccatgattt tacagatttc ataacgttta  
121 agagacggga ctacaggtcat caaaatgaaa gccctcatct ttgcagctgc tggcctcctg  
181 cttctgttgc ccactttttg tcagagtggtc atggaaaatg atacaaacaa cttggcaaaag  
241 ccaaccttac ccattaagac ctttcgtgga gctcccccaa attcttttga agagtccccc  
301 ttttctgcct tggaaggctg gacaggagcc acgattactg taaaaattaa gtgccctgaa  
361 gaaagtgcct cacatctcca tgtgaaaaat gctaccatgg ggtaccctga cagctcctta  
421 agtactaaac tgatacctgc catctacctc ctggtgtttg tagttggtgt cccggccaat  
481 gctgtgacct tgtggatgct tttcttcagg accagatcca tctgtaccac tgtattctac  
541 accaacctgg ccattgcaga ttttcttttt tgtgttacat tgccctttaa gatagcttat  
601 catctcaatg ggaacaactg ggtatttggg gaggtcctgt gccgggccac cacagtcac  
661 ttctatggca acatgtactg ctccattctg ctccctgcct gcacagcat caaccgctac  
721 ctggccatcg tccatccttt cacctaccgg ggccctgcca agcacacctc tgccttggtg  
781 acatgtggac tgggtgtggc aacagtttct ttatatatgc tgccattttt catactgaag  
841 caggaatatt atctgttcca gccagacatc accacctgcc atgatgttca caacacttgc  
901 gagtcctcat ctcccttcca actctattac ttcatctcct tggcattctt tggattctta  
961 attccatttg tgcttatcat ctactgctat gcagccatca tccggacact taatgcatac  
1021 gatcatagat ggttgtggta tgttaaggcg agtctcctca tccttgtgat ttttaccatt  
1081 tgctttgtgc caagcaatat tattcttatt attcaccatg ctaactacta ctacaacaac  
1141 actgatggct tatattttat atatctcata gctttgtgcc tgggtagtct taatagttgc  
1201 ttagatccat tcctttattt tctcatgtca aaaaccagaa atcactccac tgcttacctt  
1261 acaaaatagt gaaatgatct tagagaaaca ggacagccat cacagagaac gtctgttttc  
1321 aagaacaaca taagcatagt gcaaggagct ccatttccga gctcctaaga aatatgtctc  
1381 aaagggtcaaa cattacaaaa gcattagtag tttgtttgtt tgtttttgag actgagtcct  
1441 actttatcac ccagactggc gtgcagtggc actatcttgg ctcatgcaa cctctgcctc  
1501 ccaggtcagc ctcccaagta gctgggatta caccaccatg ccagctactt aaaaatactt  
1561 gtatttttag tagagacggg gtttcacatg gttgaccagg ctggtcttga actcctgacc  
1621 tcaagtgatc ttccggcctc agcctcccaa agtgctggat tacaggcgtg agccactgag  
1681 ccagccagca ttagtaattt ttaaaaacac tttatcagta ttttaaaaat gttaatgcag  
1741 gagaaaagat atcacaacte tatgaaaaat gacatttcca tttgccttat tgctacttca  
1801 agctctttta atcaccatct tccctatttc  
1 tcattgtggg ggcactgctc ctgtggcccc tgggtgctgg gttcagcctg tctggcgcca  
61 cccagacccc cagcgtctac gacgagagcg ggagcaccgg aggtggtgat gacagcacgc  
121 cctcaatcct gctgcccc ccgggctacc caggccaagt ctgtgccaat gacagtga  
181 ccttggaact cccggacagc tcacgggcac tgcttctggg ctgggtgccc accaggctgg  
241 tgcccgccct ctatgggctg gtccctggtg tggggctgcc ggccaatggg ctggcgctgt  
301 ggggtgctgg cacgcaggca cctcggtgct cctccaccat gctgctgatg aacctcgcca  
361 ctgctgacct cctgctggcc ctggcgctgc ccccgcgat cgctaccac ctgctggcc  
421 agcgtggcc cttcggggag gccgctgccc gcctggccac ggccgcaact tatggtcaca

481 tgtatggctc agtgctgctg ctggccgccc tcagcctgga tcgctacctg gccctggctg  
541 acccgctgcg ggcccgcgcc ctgcgtggcc ggccgctggc ccttgactc tgcattggctg  
601 cttggctcat ggccgcccgc ctggcactgc ccctgacact gcagcggcag accttccggc  
661 tggcgcgctc cgatcgctg ctctgccatg acgcgctgcc cctggacgca caggcctccc  
721 actggcaacc ggcccttacc tgctggcgcc tgttgggctg tttcctgccc ctgctggcca  
781 tgctgctgtg ctacggggcc accctgcaca cgctggcgcc cagcggcccg cgctacggcc  
841 acgcgctgag gctgaccgca gtggtgctgg cctccgccgt ggccctcttc gtgcccagca  
901 acctgctgct gctgctgcat tactcgacc cgagccccag cgctggggc aacctctatg  
961 gtgcctacgt gcccagcctg gcgctgagca ccctcaacag ctgctgggat cccttcatct  
1021 actactacgt gtcggccgag ttcagggaac aggtgcccgc agggctcttc caacggctgc  
1081 cgggggacac cgtggcctcc aaggcctctg cggaaggggg cagccggggc atgggcaccc  
1141 actcctcttt gctccagtga cacaagtgg ggaaggctgt actgggtcga acagggtccc  
1201 tccccccact tcacgtcctt cctgggacct cagaatgtga ccttatttgg aaatagggtt  
1261 gttacaactg tactagcag aggtcacttt ggagaagggt gggccttaca tccagtgtgg  
1321 gtggtgtcct cataagataa ggagaggcca ggccgtgtgg ctcacgcctg taatcccagc  
1381 actttaagag gccaaaggcg atggtactt tgagcccagg agttcaacac cagcctgagc  
1441 aacatggtaa aaccccatct ctacaaaaaa tacaaaaatt agctgggctt ggtggctggc  
1501 gcctgtaatc ccagctactc angagactga ggcacgcacc cggg  
301 cccgcaggcc agaatacaaa gcaacaaatg ccaccttaga tccccggcta tttcttctca  
361 ggaaccccaa tgataaatat gaaccatttt gggaggatga ggagaaaaat gaaagtgggt  
421 taactgaata cagattagtc tccatcaata aaagcagtc tcttcaaaaa caacttctctg  
481 cattcatctc agaagatgcc tccggtattt tgaccagctc ctggctgaca cctttgttcc  
541 catctgtgta caccggagtg tttgtagtca gcctccact aaacatcatg gccatcgttg  
601 tgttcatcct gaaaatgaag gtcaagaagc cgccgggtgt gtacatgctg cacctggcca  
661 cggcagatgt gctgtttgtg tctgtgtccc cctttaagat cagctattac ttttccggca  
721 gtgattggca gtttgggtct gaattgtgtc gcttcgtcac tgcagcattt tactgtaaca  
781 tgtacgcctc tatcttctc atgacagtca taagcattga ccggtttctg gctgtggtgt  
841 atcccatgca gtccctctcc tggcgactc tgggaagggc ttccttcaat tgtctggcca  
901 tctgggcttt ggccatcgca ggggtagtgc ctctcgtcct caaggacaa accatccagg  
961 tgcccggtct caacatcact acctgtcatg atgtgtcaa tgaaacctg ctgaaagct  
1021 actatgccta ctacttctca gccttctctg ctgtcttctt ttttgtgccg ctgatcattt  
1081 ccacggctctg ttatgtgtct atcattcgat gtcttagctc ttcgcagctt gccaaccgca  
1141 gcaagaagtc ccgggctttg ttctgtcag ctgctgtttt ctgcatcttc atcatttgc  
1201 tcggaccac aaacgtcctc ctgattgcgc attactcatt ccttctcac acttccacca  
1261 cagaggctgc ctactttgcc tactcctct gtgtctgtgt cagcagcata agctcgtgca  
1321 tcgacccctt aatttactat tacgttctct ctgagtgcga gaggtacgtc tacagtatct  
1381 tatgtgcaa agaaagtctc gatcccgca gttataacag cagtgggca tgtaggcaa  
1441 gtaaaatgga tacctgtct agtaacctga ataacagcat atacaaaaag ctgttaactt  
1501 aggaaaagg actgctggga ggttaaaaag aaaagtttat aaaagtgaat aacctgagga  
1561 ttctattagt cccacccaa actttattga ttcacctctt aaaacaacag atgtacgact  
1621 tgcataacctg ctttttatgg gagctgtcaa gcatgtattt ttgtcaatta ccagaaagat  
1681 aacaggacga gatgacggtg ttattccaag ggaatattgc caatgctaca gtaataaatg  
1741 aatgtcactt ctggatatag ctaggtgaca tatacatact tacatgtgtg tatatgtaga  
1801 tgtatgcaca cacatatatt atttgcagt cagtatagaa taggcacttt aaaacactct  
1861 tcccccgac cccagcaatt atgaaaataa tctctgattc cctgatttaa tatgcaaggt  
1921 ctaggttggt agagttagc cctgaacatt tcatggtgtt catcaacagt gagagactcc  
1981 atagtttggg cttgtaccac ttttgc aaat aagtgtattt tgaaattgtt tgacggcaag  
2041 gtttaagtta ttaagaggta agacttagta ctatctgtgc gtagaagttc tagtgttttc  
2101 aatttttaac atatccaagt ttgaattcct aaaattatgg aaacagatga aaagcctctg  
2161 ttttgatatg ggtagtattt ttacatttt acacactgta cacataagcc aaaactgagc  
2221 ataagtcctc tagtgaatgt aggtggctt tcagagtagg ctattcctga gagctgcatg  
2281 tgtccgcccc cgatggagga ctccaggcag cagacacatg ccagggccat gtcagacaca  
2341 gattggccag aaaccttctc gctgagcctc acagcagtga gactggggcc actacatttg  
2401 ctccatcctc ctgggattgg ctgtgaactg atcatgttta tgagaaaactg gcaaaagcaga  
2461 atgtgatac ctaggaggta atgacctga aagacttctc taccatctt aaaaacaacg  
2521 aaagaaggca tggacttctg gatgcccac cactgggtgt aaacacatct agtagttgtt  
2581 ctgaaatgtc agttctgata tggagcacc cattatgcgc tgtggccact ccaatagggtg  
2641 ctgagtgtac agagtgaat aagacagaga cctgccctca agagcaaagt agatcatgca  
2701 tagagtgtga tgtatgtgta ataaatagt ttcacacaaa caaggcctgt cagctaaaga  
2761 agtttgaaca tttgggttac ttttcttgt ggttataact taatgaaaac aatgcagtac  
2821 aggcataata ttttttaaaa taagtctgat ttaattgggc actatttatt tacaatgtt  
2881 ttgctcaata gattgctcaa atcaggtttt cttttaagaa tcaatcatgt cagtctgctt  
2941 agaaataaca gaagaaaata gaattgacat tgaaatctag gaaaattatt ctataatttc  
3001 catttactta agacttaatg agactttaaa agcatttttt aacctcctaa gtatcaagta  
3061 tagaaaatct tcatggaatt cacaaagtaa tttggaaatt aggttgaaac atatctctta  
3121 tcttacgaaa aaatggtagc attttaaaca aaatagaaag ttgcaaggca aatgtttatt  
3181 taaaagagca ggccaggcgc ggtggctcac gcctgtaatc ccagcacttt gggaggctga  
3241 ggcgggtgga tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaacctg

3301 ctctactaaa aatgcaaaaa aaattagccg ggcgtggtgg caggcacctg tagtcccagc  
3361 tactcgggag gctgaggcag gagactggcg tgaaccagg aggcggacct tgtagtgagc  
3421 cgagatcgcg cactgtgct ccagcctggg caacagagca agactccatc tc

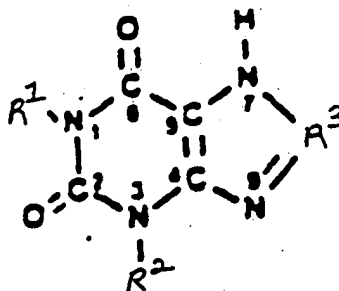
**WHAT IS CLAIMED AS NOVEL AND UNOBVIOUS  
IN UNITED STATES LETTERS PATENT IS:**

1. A pharmaceutical composition, comprising a nucleic acid which comprises an oligonucleotide (oligo) consisting of up to about 15% adenosine (A), and which is effective for alleviating or inhibiting bronchoconstriction, allergy(ies) and/or inflammation, the oligo being anti-sense to a target selected from the group consisting of
  - target genes and their corresponding mRNAs;
  - genomic and mRNA flanking regions selected from the group consisting of 3' and 5' intron-exon borders and the juxta-section between coding and non-coding regions; and
  - all mRNA segments encoding polypeptides associated with a disease(s) or condition(s) afflicting lung airways;
  - combinations thereof;
  - pharmaceutically acceptable salts thereof; and
  - mixtures thereof.
2. The composition of claim 1, wherein the oligo consists of up to about 10% A.
3. The composition of claim 2, wherein the oligo consists of up to about 5% A.
4. The composition of claim 3, wherein the oligo consists of up to about 3% A.
5. The composition of claim 4, wherein the oligo is A-free.
6. The composition of claim 1, wherein the target gene is selected from the group consisting of target genes and mRNAs encoding polypeptides selected from the group consisting of transcription factors, stimulating and activating factors, interleukins, interleukin receptors, chemokines, chemokine receptors, endogenously produced specific and non-specific enzymes, immunoglobulins, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules, defensins, growth factors, vasoactive peptides and receptors, and binding proteins; and target genes and mRNAs corresponding to oncogenes, and flanking regions and intron and exon borders.
7. The agent of claim 6, wherein the encoded polypeptides are selected from the group consisting of NfκB Transcription Factor, Interleukin-8 Receptor (IL-8 R), Interleukin 5 Receptor (IL-5 R), Interleukin 4 Receptor (IL-4 R), Interleukin 3 Receptor (IL-3 R), Interleukin-1β (IL-1β), Interleukin 1β Receptor (IL-1β R), Eotaxin, Tryptase, Major Basic Protein, β<sub>2</sub>-adrenergic Receptor Kinase, Endothelin Receptor A, Endothelin Receptor B, Preproendothelin, Bradykinin B2 Receptor, IgE High Affinity Receptor, Interleukin 1 (IL-1), Interleukin 1 Receptor (IL-1 R), Interleukin 9 (IL-9), Interleukin-9 Receptor (IL-9 R), Interleukin 11 (IL-11), Interleukin-11 Receptor (IL-11 R), Inducible Nitric Oxide Synthase, Cyclooxygenase (COX), Intracellular Adhesion Molecule 1 (ICAM-1) Vascular Cellular Adhesion Molecule (VCAM), Rantes, Endothelial Leukocyte Adhesion Molecule (ELAM-1), Monocyte Activating Factor, Neutrophil Chemotactic Factor, Neutrophil Elastase, Defensin 1, 2 and 3, Muscarinic Acetylcholine Receptors, Platelet Activating Factor, Tumor Necrosis Factor α, 5-lipoxygenase, Phosphodiesterase IV, Substance P, Substance P Receptor, Histamine Receptor, Chymase, CCR-1 CC Chemokine Receptor, CCR-2 CC Chemokine Receptor, CCR-3 CC Chemokine Receptor, CCR-4 CC Chemokine Receptor, CCR-5 CC Chemokine Receptor, Prostanoid Receptors, GATA-3 Transcription Factor, Neutrophil Adherence Receptor, MAP Kinase, Interleukin-9 (IL-9), NFAT Transcription Factors, STAT 4, MIP-1α, MCP-2, MCP-3, MCP-4, Cyclophilins, Phospholipase A2, Basic Fibroblast Growth Factor, Metalloproteinase, CSBP/p38 MAP Kinase, Tryptose Receptor, PDG2, Interleukin-3 (IL-3), Interleukin-1β (IL-1β), Cyclosporin A-Binding Protein, FK5-Binding Protein, α<sub>4</sub>β<sub>1</sub> Selectin, Fibronectin, α<sub>4</sub>β<sub>7</sub> Selectin, Mad CAM-1, LFA-1 (CD11a/CD18), PECAM-1, LFA-1 Selectin, C3bi, PSGL-1, E-Selectin, P-Selectin, CD-34, L-Selectin, p150,95, Mac-1 (CD11b/CD18), Fucosyl transferase, VLA-4, CD-18/CD11a, CD11b/CD18, ICAM2 and ICAM3, C5a, CCR3 (Eotaxin Receptor), CCR1, CCR2, CCR4, CCR5, LTB-4, AP-1 Transcription Factor, Protein kinase C, Cysteinyl Leukotriene Receptor, Tachychinins Receptors (tach R), IκB Kinase 1 & 2, STAT 6, c-mas and NF-Interleukin-6 (NF-IL-6).
8. The composition of claim 1, wherein at least one A is substituted by a universal base selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than about 0.3 of the adenosine base agonist activity at the adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors, and heteroaromatic bases which have no activity or have an agonist activity at the adenosine A<sub>2a</sub> receptor.
9. The composition of claim 8, wherein all As are substituted by universal bases selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than about 0.3 of the adenosine base agonist activity at the adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors, and heteroaromatic bases which have no activity or have an agonist activity at the adenosine A<sub>2a</sub> receptor.
10. The composition of claim 8, wherein the heteroaromatic bases are selected from the group consisting of pyrimidines and purines, which may be substituted by O, hal, NH<sub>2</sub>, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl,

halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynylaryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH<sub>2</sub>, primary, secondary and tertiary amine, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, cycloalkyl, hetero cycloalkyl and heteroaryl.

11. The composition of claim 10, wherein the pyrimidines and purines are substituted at positions 1, 2, 3, 4, 7 and 8.

12. The composition of claim 11, wherein the pyrimidines and purines are selected from the group consisting of theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprifylline and xantine having the chemical formula



wherein R<sup>1</sup> and R<sup>2</sup> are independently H, alkyl, alkenyl or alkynyl and R<sup>3</sup> is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH<sub>2</sub>-alkylamino-ketoxyalkoxy-aryl and mono and dialkylaminoalkyl-N-alkylamino-SO<sub>2</sub> aryl.

13. The composition of claim 12, wherein the universal base is selected from the group consisting of 3-nitropyrrole-2'-deoxynucleoside, 5-nitro-indole, 2-deoxyribosyl-(5-nitroindole), 2-deoxyribofuranosyl-(5-nitroindole), 2'-deoxyinosine, 2'-deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4,5-c] oxazine-7-one or 2-amino-6-methoxyaminopurine.

14. The composition of claim 1, where a methylated cytosine (<sup>m</sup>C) is substituted for at least one CpG dinucleotide if present in the oligo(s).

15. The composition of claim 1, wherein at least one nucleotide linking residue of the anti-sense oligonucleotide(s) is a residue selected from the group consisting of methylphosphonate, phosphotriester, phosphorothioate, phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene(methylimino), methyleneoxy (methylimino), 2'-O-methyl, phosphoramidate residues and combinations thereof.

16. The agent of claim 15, wherein all nucleotide linking residues are selected from the group consisting of methylphosphonate, phosphotriester, phosphorothioate, phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbonate, carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene(methylimino), methyleneoxy (methylimino), 2'-O-methyl, phosphoramidate residues and combinations thereof.

17. The composition of claim 1, wherein the anti-sense oligonucleotide comprises about 7 to 60 mononucleotides.

18. The composition of claim 1, wherein the anti-sense oligonucleotide comprises fragments 1 to 1670 (SEQ ID NOS: 11 through 1680).

19. The composition of claim 1, wherein the anti-sense oligonucleotide is linked to an agent selected from the group consisting of cell internalized or up-taken agent(s) and cell targeting agents.

20. The composition of claim 19, wherein the cell internalized or up taken agent is selected from the group consisting of transferrin, asialoglycoprotein and streptavidin.

21. The composition of claim 19, wherein the nucleic acid is linked to a vector.

22. The vector of claim 21, which comprises a prokaryotic or eukaryotic vector.

23. The composition of claim 1, wherein the oligo is hybridized to a ribonucleic acid.

24. A cell, comprising the agent of claim 1.

25. The composition of claim 1, further comprising a carrier.

26. The composition of claim 25, wherein the carrier comprises a biologically acceptable carrier.

27. The composition of claim 26, wherein the carrier comprises a pharmaceutically or veterinarily acceptable carrier.

28. The composition of claim 25, wherein the carrier is selected from the group consisting of gaseous, liquid, solid carriers and mixtures thereof.

29. The composition of claim 25, further comprising an agent selected from the group consisting of other therapeutic agents, surfactants, antioxidants, flavoring and coloring agents, fillers, volatile oils, buffering agents, dispersants, RNA inactivating agents, anti-oxidants, flavoring agents, propellants and preservatives.

30. The composition of claim 29, comprising the nucleic acid, a surfactant and a carrier.

31. The composition of claim 29, wherein the surfactant is selected from the group consisting of surfactant protein A, surfactant protein B, surfactant protein C, surfactant protein D and surfactant protein and active fragments thereof, non-dipalmitoyl disaturated phosphatidylcholine, dipalmitoylphosphatidylcholine, phosphatidylcholine, phosphatidylglycerol, phosphatidylinositol, phosphatidylethanolamine, phosphatidylserine, phosphatidic acid, ubiquinones, lysophosphatidylethanolamine, lysophosphatidylcholine, palmitoyl-lysophosphatidylcholine, dehydroepiandrosterone, d-lichols, sulfatidic acid, glycerol-3-phosphate, dihydroxyacetone phosphate, glycerol, glycerol-3-phosphocholine, dihydroxyacetone, palmitate, cytidine diphosphate (CDP) diacylglycerol, CDP choline, choline, choline phosphate, artificial lamellar bodies vehicles for surfactant components, omega-3 fatty acids, polyenic acid, polyenoic acid, lecithin, palmitic acid, non-ionic ethylene and/or propylene oxide block copolymers, polyoxypropylene, polyoxyethylene, poly(vinyl amine) with dextran and/or alkanoyl side chains, Brij 35, Triton X-100, ALEC, Exosurf, Survant and Atovaquone.

32. The composition of claim 31, wherein the RNA inactivating agent comprises an enzyme, preferably a ribozyme.

33. The composition of claim 1, wherein the anti-sense oligonucleotide is present in an amount of about 0.01 to about 99.99 w/w of the composition.

34. The composition of claim 33, wherein the anti-sense oligonucleotide is present in an amount of about 1 to about 40 w/w of the composition.

35. The composition of claim 34, wherein the anti-sense oligonucleotide is present in an amount of about 5 to about 20 w/w of the composition.

36. A formulation, comprising the composition of claim 25, selected from the group consisting of systemic and topical formulations.

37. The formulation of claim 36, selected from the group consisting of oral, intrabuccal, intrapulmonary, rectal, intrauterine, intratumor, intracranial, nasal, intramuscular, subcutaneous, intravascular, intrathecal, inhalable, transdermal, intradermal, intracavitary, implantable, iontophoretic, ocular, vaginal, intraarticular, otical, intravenous, intramuscular, intraglandular, intraorgan, intralymphatic, implantable, slow release and enteric coating formulations.

38. The formulation of claim 37, which is an oral formulation, wherein the carrier is selected from the group consisting of solid and liquid carriers.

39. The oral formulation of claim 38, wherein the liquid carrier is selected from the group consisting of solutions, suspensions, and oil-in-water and water-in-oil emulsions.

40. The oral formulation of claim 38, which is selected from the group consisting of a powder, dragees, tablets, capsules, sprays, aerosols, solutions, suspensions and emulsions.

41. The formulation of claim 36, which is a topical formulation, wherein the carrier is selected from the group consisting of creams, gels, ointments, sprays, aerosols, patches, solutions, suspensions and emulsions.

42. The formulation of claim 36, which is an injectable formulation, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions and suspensions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions.

43. The formulation of claim 36, which is a rectal formulation in the form of a suppository.

44. The formulation of claim 36, which is a transdermal formulation, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions.

45. The transdermal formulation of claim 36, which is an iontophoretic transdermal formulation, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions, and wherein the formulation further comprises a transdermal transport promoting agent.

46. An implantable capsule or cartridge, comprising the formulation of claim 44.

47. The formulation of claim 36, wherein the carrier is selected from the group consisting of aqueous and alcoholic solutions and suspensions, oily solutions and suspensions and oil-in-water and water-in-oil emulsions.

48. The formulation of claim 36, wherein the carrier comprises a hydrophobic carrier.

49. The formulation of claim 48, wherein the carrier comprises lipid vesicles or particles.

50. The formulation of claim 49, wherein the vesicles comprise liposomes, and the particles comprise microcrystals.

51. The formulation of claim 50, wherein the vesicles comprise liposomes which comprise the anti-sense oligonucleotide.

52. The formulation of claim 49, wherein the vesicles comprise N-(1-[2,3-dioleoxyloxy] propyl)-N,N,N-trimethyl-ammonium methylsulfate.

53. The formulation of claim 36, comprising a respirable or inhalable formulation.

54. The respirable or inhalable formulation of claim 53, comprising an aerosol.

55. The formulation of claim 36, in single or multiple unit form.

56. The formulation of claim 36, in bulk.



57. A kit, comprising a delivery device; in a separate container, the formulation of claim 36; and instructions for adding a carrier and for use of the formulation.
58. The kit of claim 57, wherein the delivery device comprises a nebulizer which delivers single metered doses of the formulation.
59. The kit of claim 58, wherein the nebulizer comprises an insufflator; and the composition is provided in a pierceable or openable capsule or cartridge.
60. The kit of claim 58, wherein the delivery device comprises a pressurized inhaler; and the composition comprises a suspension, solution or dry formulation of the agent.
61. The kit of claim 57, further comprising, in a separate container, an agent selected from the group consisting of other therapeutic agents, surfactants, anti-oxidants, flavoring agents, fillers, volatile oils, dispersants, antioxidants, propellants, preservatives, buffering agents, RNA inactivating, cell-internalized or up-taken agents and coloring agents.
62. The kit of claim 61, comprising, in separate containers, a nucleic acid, a surfactant and a carrier.
63. The kit of claim 61, wherein the solvent is selected from the group consisting of organic solvents and organic solvents mixed with one or more co-solvents.
64. The kit of claim 57, wherein the composition is provided in a capsule or cartridge.
65. An in vivo method of delivering a nucleic acid comprising an anti-sense oligonucleotide (oligo) to a target polynucleotide associated with a disease(s) or condition(s) afflicting lung airways, comprising administering to a subject the composition of claim 1 comprising an amount of the nucleic acid effective to reach the target polynucleotide.
66. The method of claim 65, wherein the composition is administered into the subject's respiratory system.
67. The method of claim 65, wherein the agent is administered directly into the subject's lung (s).
68. The method of claim 65, wherein the amount of the agent is effective to bind to the nucleic acid.
69. The method of claim 65, wherein the agent is effective to reduce the production or availability, or to increase the degradation, of the target mRNA or to reduce the amount of the target polypeptide present in the lungs.
70. The method of claim 65, wherein the agent is administered as a respirable aerosol.
71. The method of claim 65, wherein the disease or condition is associated with obstruction of the subject's airways.
72. The method of claim 71, wherein the disease or condition is associated with asthma.
73. The method of claim 65, wherein the disease or condition is associated with inflammation.
74. The method of claim 65, wherein the disease or condition is associated with an allergy, and the target is selected from the group consisting of immunoglobulins and antibody receptors, genes and mRNAs encoding them, their genomic and mRNA flanking sequences and exon and intron borders of the gene (s) and mRNA(s).
75. The method of claim 65, wherein the disease or condition is associated with a malignancy or cancer, and the mRNA encodes a target selected from the group consisting of immunoglobulins and antibody receptors, genomic flanking sequences and genes and mRNAs encoding them and oncogenes.
76. The method of claim 65, wherein the composition is administered by a transdermal or systemic route.
77. The method of claim 76, wherein the composition is administered orally, intracavitarily, intranasally, intraanally, intravaginally, intrauterally, intraarticularly, transdermally, intrabucally, intravenously, subcutaneously, intramuscularly, intravascularly, intratumorously, intraglandularly, intraocularly, intracranial, into an organ, intravascularly, intrathecally, intralymphatically, intraotically, by implantation, by inhalation, intradermally, intrapulmonarily, intraotically, by slow release, by sustained release and by a pump.
78. The method of claim 65, wherein the subject is a mammal.
79. The method of claim 78, wherein the mammal is selected from the group consisting of humans and animals.
80. The method of claim 79, wherein the mammal is a human.
81. The method of claim 79, wherein the subject is an animal.
82. The method of claim 65, wherein the anti-sense oligonucleotide is administered in amount of about 0.005 to about 150 mg/kg body weight.
83. The method of claim 82, wherein the anti-sense oligonucleotide is administered in an amount of about 0.01 to about 75 mg/kg body weight.

84. The method of claim 83, wherein the anti-sense oligonucleotide is administered in an amount of about 1 to 50 mg/kg body weight.

85. The method of claim 65, which is a prophylactic method.

86. The method of claim 65, which is a therapeutic method.

87. The method of claim 65, wherein the oligo is obtained by

(a) selecting fragments of a target nucleic acid having at least 4 contiguous nucleic acids selected from the group consisting of G and C;

(b) obtaining a first oligonucleotide 4 to 60 nucleotides long which comprises the selected fragment and has a C and G nucleic acid content of up to and including about 15%; and

(c) obtaining a second oligonucleotide 4 to 60 nucleotides long comprising a sequence which is anti-sense to the selected fragment, the second oligonucleotide having an A base content of up to and including about 15%.

88. The method of claim 61, wherein the oligo consists of up to about 10% A.

89. The method of claim 88, wherein the oligo consists of up to about 5% A.

90. The method of claim 88, wherein the oligo consists of up to about 3% A.

91. The method of claim 92, wherein the oligo is A-free.

92. The method of claim 65, wherein the target is selected from the group consisting of genes and mRNAs encoding polypeptides selected from the group consisting of transcription factors, stimulating and activating factors, interleukins, interleukin receptors, chemokines, chemokine receptors, endogenously produced specific and non-specific enzymes, immunoglobulins, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules, defensins, growth factors, vasoactive peptides, peptide receptors and binding proteins; and

genes and mRNAs corresponding to oncogenes.

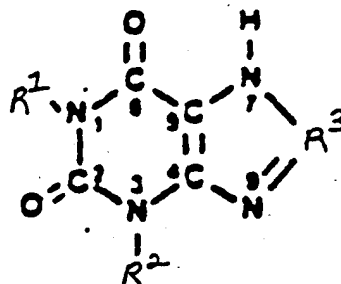
93. The method of claim 65, wherein at least one A is substituted by a universal base selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than about 0.3 of the adenosine base agonist activity at the adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors, and heteroaromatic bases which have no activity or have an agonist activity at the adenosine A<sub>2a</sub> receptor.

94. The method of claim 93, wherein all As are substituted by universal bases selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than about 0.3 of the adenosine base agonist activity at the adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors, and heteroaromatic bases which have no activity or have an agonist activity at the adenosine A<sub>2a</sub> receptor.

95. The method of claim 95, wherein the heteroaromatic bases are selected from the group consisting of pyrimidines and purines, which may be substituted by O, halo, NH<sub>2</sub>, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl, halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynylaryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH<sub>2</sub>, primary, secondary and tertiary amine, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, cycloalkyl, heterocycloalkyl and heteroaryl.

96. The method of claim 95, wherein the pyrimidines and purines are substituted at positions 1, 2, 3, 4, 7 and 8.

97. The method of claim 96, wherein the pyrimidines and purines are selected from the group consisting of theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprofylline and xantine having the chemical formula



wherein R<sup>1</sup> and R<sup>2</sup> are independently H, alkyl, alkenyl or alkynyl and R<sup>3</sup> is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH<sub>2</sub>-alkylamino-ket xyalkyloxy-aryl and mono and dialkylaminoalkyl-N-alkylamino-SO<sub>2</sub> aryl.

98. The method of claim 97, wherein the universal base is selected from the group consisting of 3-nitropyrrole-2'-deoxynucleoside, 5-nitro-indole, 2-deoxyribosyl-(5-nitroindole), 2-de xyribofuranosyl-(5-nitroindole), 2'-deoxyinosine, 2'-deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4,5-c] oxazine-7-one or 2-amino-6-methoxyaminopurine.

99. The method of claim 65, further comprising methylating at least one cytosine (mC) if a CpG dinucleotide is present in the oligo(s).

100. The method of claim 65, further comprising substituting at least one nucleotide linking residue of the anti-sense oligonucleotide(s) with a residue selected from the group consisting of methylphosphonate, phosphotriester, phosphorothioate, phosphorodithioate, boranophosphate, formacetal, thioformacetal, thioether, carbonate, carbamate, sulfate, sulfonate, sulfamate, sulfonamide, sulfone, sulfite, sulfoxide, sulfide, hydroxylamine, methylene(methylimino), methyleneoxy (methylimino), 2'-O-methyl, phosphoramidate residues, and combinations thereof.

101. The method of claim 100, wherein all nucleotide linking residues of the oligo are substituted.

102. The method of claim 65, further comprising linking the anti-sense oligonucleotide to an agent selected from the group consisting of cell internalized and up-taken agent(s) and cell targeting agents.

103. The method of claim 102, wherein the cell internalized or up taken agent is selected from the group consisting of transferrin, asialoglycoprotein, and streptavidin.

104. The method of claim 102, wherein the cell targeting agent is a vector.

105. The method of claim 104, wherein the vector to which the agent is operatively linked is a prokaryotic or eukaryotic vector.

106. A method of identifying segments in a target polynucleotide suitable for constructing oligonucleotides which are anti-sense to the target polynucleotide and have an adenosine (A) content of up to and including about 15% of all nucleotides, comprising

(a) selecting fragments of a target polynucleotide acid having at least 4 contiguous nucleic acids selected from the group consisting of G and C; and

(a) obtaining a first oligonucleotide 4 to 60 nucleotides long which comprises the selected fragment and has a C and G content of up to and including about 15%.

107. A method of obtaining oligonucleotides which are anti-sense to a target polynucleotide and have an adenosine content of 0 to up to and including about 15%, comprising conducting the method of claim 106; wherein the first oligonucleotide comprises a sequence which is anti-sense to the selected fragment and has an A content of up to and including about 15%.

108. The method of claim 107, further comprising, when the anti-sense fragment comprises at least one A, substituting at least one A with a universal base selected from the group consisting of

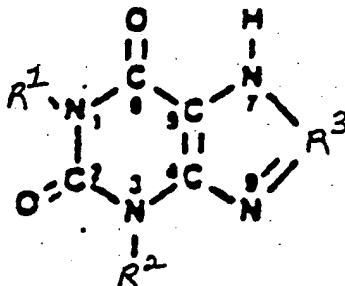
heteroaromatic bases which bind to thymidine (T) but have less than about 0.3 of A's adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptor agonist activity; and

heteroaromatic bases which have no activity or have adenosine A<sub>2a</sub> receptor agonist activity.

109. The method of claim 108, wherein the heteroaromatic bases are selected from the group consisting of pyrimidines and purines, which may be substituted by O, halo, NH<sub>2</sub>, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl, halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynylaryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH<sub>2</sub>, primary, secondary and tertiary amine, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, cycloalkyl, heterocycloalkyl and heteroaryl.

110. The method of claim 109, wherein the pyrimidines and purines are substituted at positions 1, 2, 3, 4, 7 and 8.

111. The method of claim 109, wherein the pyrimidines and purines are selected from the group consisting of theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprofylline and xantine having the chemical formula



wherein R<sup>1</sup> and R<sup>2</sup> are independently H, alkyl, alkenyl or alkynyl and R<sup>3</sup> is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH<sub>2</sub>-alkylamino-ketoxyalkoxy-aryl and mono and dialkylaminoalkyl-N-alkylamino-SO<sub>2</sub> aryl.

112. The method of claim 108, wherein the universal base is selected from the group consisting of 3-nitropyrrole-2'-deoxynucleoside, 5-nitro-indole, 2-deoxyribosyl-(5-nitroindole), 2-deoxyribofuranosyl-(5-nitroindole), 2'-deoxyinosine, 2'-deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4,5-c] oxazine-7-one or 2-amino-6-methoxyaminopurine.

113. A method of treating a disease or condition associated with a target selected from the group consisting of proteins, gene (s) and their corresponding mRNA(s) encoding the proteins, the genes and mRNA flanking regions and their intron and exon borders, associated with a disease or condition afflicting lung airways, comprising administering to a subject afflicted with the disease or condition the composition of claim 1 comprising an anti-bronchoconstriction, anti-allergic and/or anti-inflammatory effective amount of the nucleic acid.

114. The method of claim 113, wherein the amount of nucleic acid administered is effective to reduce the production or availability, or to increase the degradation, of the mRNA, or to reduce the amount of the polypeptide present in the lungs.

115. The method of claim 113, wherein the nucleic acid is administered directly to the lung (s) of the subject.

116. The method of claim 113, wherein the nucleic acid is administered as a respirable aerosol.

117. The method of claim 113, wherein the disease or condition is a disease or condition afflicting the lung (s).

118. The method of claim 117, wherein the disease or condition is associated with obstruction of the subject's airways.

119. The method of claim 117, wherein the disease or condition is associated with asthma.

120. The method of claim 117, wherein the disease or condition is associated with inflammation.

121. The method of claim 113, wherein the disease or condition is associated with allergy (ies), and the target is selected from the group consisting of immunoglobulins and antibody receptors, gene(s) and corresponding mRNA(s) encoding them, the genes and mRNA flanking regions and intron and exon borders.

122. The method of claim 113, wherein the disease or condition is associated with a malignancy or cancer; and the target is selected from the group consisting of immunoglobulins and antibody receptors, gene(s) and mRNA(s) encoding them, gene(s) and mRNA(s) associated with oncogenes, genomic and mRNA flanking regions and exon and intron borders.

123. The method of claim 113, wherein the composition is administered by a topical or systemic route.

124. The method of claim 123, wherein the composition is administered orally, intracavitarily, intranasally, intraanally, intravaginally, intrauterally, intraarticularly, intraotically, intralymphatically, transdermally, intrabucally, intravenously, subcutaneously, intramuscularly, intratumorously, intraglandularly, intraocularly, intracranial, into an organ, intravascularly, intrathecally, by implantation, by inhalation, intradermally, intrapulmonarily, into the ear, by slow release, by sustained release and by a pump.

125. The method of claim 124, wherein the subject is a mammal.

126. The method of claim 125, wherein the mammals are selected from the group consisting of humans and animals.

127. The method of claim 113, wherein the anti-sense oligonucleotide is administered in amount of about 0.005 to about 150 mg/kg body weight.

128. The method of claim 127, wherein the anti-sense oligonucleotide is administered in an amount of about 0.01 to about 75 mg/kg body weight.

129. The method of claim 130, wherein the anti-sense oligonucleotide is administered in an amount of about 1 to about 50 mg/kg body weight.

130. The method of claim 113, which is a prophylactic method.

131. The method of claim 113, which is a therapeutic method.

132. A method of producing anti-sense oligonucleotide(s) (oligos) consisting of up to and including about 15% adenosine (A), comprising

selecting a target from the group consisting of polypeptides associated with a disease(s) and/or condition(s) afflicting lung airways, genes and RNAs encoding them, the genomic and mRNA flanking regions and the gene(s) and mRNA(s) intron and exon borders;

obtaining the sequence of a mRNA(s) selected from the group consisting of mRNAs corresponding to the target gene(s) and mRNAs encoding the target polypeptide(s), genomic and mRNA flanking regions and the genes and mRNAs intron and exon borders;

selecting at least one segment of the mRNA(s);

synthesizing one or more oligo anti-sense to the selected mRNA segment(s); and

substituting, if necessary, a universal base(s) for one or more A(s) to reduce the content of A present in the oligo to up to about 15% of all nucleotides.

133. The method of claim 132, wherein the universal base is selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than about 0.3 of the adenosine base agonist activity at the adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors, and heteroaromatic bases which have no activity or have an agonist activity at the adenosine A<sub>2a</sub> receptor.

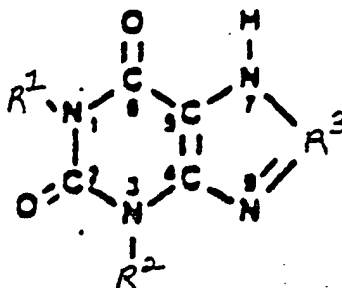
134. The method of claim 132, wherein all As are substituted with universal bases selected from the group consisting of heteroaromatic bases which bind to a thymidine base but have antagonist activity and less than

about 0.3 of the adenosine base agonist activity at the adenosine A<sub>1</sub>, A<sub>2b</sub> and A<sub>3</sub> receptors, and heteroaromatic bases which have no activity or have an agonist activity at the adenosine A<sub>2a</sub> receptor.

135. The method of claim 133, wherein the heteroaromatic bases are selected from the group consisting of pyrimidines and purines, which may be substituted by O, halo, NH<sub>2</sub>, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, COOH and branched and fused primary and secondary amino, alkyl, alkenyl, alkynyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, alkoxy, alkenoxy, acyl, cycloacyl, arylacyl, alkynoxy, cycloalkoxy, aroyl, arylthio, arylsulfoxyl, halocycloalkyl, alkylcycloalkyl, alkenylcycloalkyl, alkynylcycloalkyl, haloaryl, alkylaryl, alkenylaryl, alkynylaryl, arylalkyl, arylalkenyl, arylalkynyl, arylcycloalkyl, which may be further substituted by O, halo, NH<sub>2</sub>, primary, secondary and tertiary amine, SH, SO, SO<sub>2</sub>, SO<sub>3</sub>, cycloalkyl, heterocycloalkyl and heteroaryl.

136. The method of claim 135, wherein the pyrimidines and purines are substituted at positions 1, 2, 3, 4, 7 and 8.

137. The method of claim 135, wherein the pyrimidines and purines are selected from the group consisting of theophylline, caffeine, dyphylline, etophylline, acephylline piperazine, bamifylline, enprofylline and xantine having the chemical formula



wherein R<sup>1</sup> and R<sup>2</sup> are independently H, alkyl, alkenyl or alkynyl and R<sup>3</sup> is H, aryl, dicycloalkyl, dicycloalkenyl, dicycloalkynyl, cycloalkyl, cycloalkenyl, cycloalkynyl, O-cycloalkyl, O-cycloalkenyl, O-cycloalkynyl, NH<sub>2</sub>-alkylamino-ketoxyalkoxy-aryl and mono and dialkylaminoalkyl-N-alkylamino-SO<sub>2</sub> aryl.

138. The method of claim 135, wherein the universal base is selected from the group consisting of 3-nitropyrrole-2'-deoxynucleoside, 5-nitro-indole, 2-deoxyribosyl-(5-nitroindole), 2-deoxyribofuranosyl-(5-nitroindole), 2'-deoxyinosine, 2'-deoxynebularine, 6H, 8H-3,4-dihydropyrimido [4,5-c] oxazine-7-one or 2-amino-6-methoxyaminopurine.

139. The method of claim 132, wherein the proportion of A in the oligo is reduced to up to about 10%.

140. The method of claim 139, wherein the proportion of A in the oligo is reduced to up to about 5%.

141. The method of claim 140, wherein the proportion of A in the oligo is reduced to up to about 3%.

142. The method of claim 141, wherein the proportion of A in the oligo is reduced to about 0.

143. The method of claim 139, wherein the selected segment contains less than about 15% T.

144. The method of claim 132, further comprising substituting a methylated cytosine for cytosine in at least one CpG dinucleotide present in the anti-sense oligo(s).

145. The method of claim 132, wherein the anti-sense oligo(s) are about 7 to about 60 nucleotides long.

146. The method of claim 132, wherein the target is selected from the group consisting of transcription factors, stimulating and activating factors, interleukins, interleukin receptors, chemokines, chemokine receptors, endogenously produced specific and non-specific enzymes, immunoglobulins, antibody receptors, central nervous system (CNS) and peripheral nervous and non-nervous system receptors, CNS and peripheral nervous and non-nervous system peptide transmitters, adhesion molecules, selectins, defensins, growth factors, vasoactive peptides, vasoactive peptide receptors, and binding proteins and oncogenes.

147. The method of claim 146, wherein the target genes are selected from the group consisting of oncogenes.

148. An anti-sense oligonucleotide produced by the method of claim 132.

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